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9 IN THE UNITED STATES DISTRICT COURT
10 FOR THE NORTHERN DISTRICT OF CALIFORNIA
11

12 **NETCHOICE,**

13 Plaintiff,

14 v.
15

16 **ROB BONTA, in his official capacity as
Attorney General of California,**

17 Defendant.
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5:24-cv-07885-EJD

**DECLARATION OF JENNY S.
RADESKY, M.D., IN SUPPORT OF
DEFENDANT'S OPPOSITION TO
PLAINTIFF'S MOTION FOR
PRELIMINARY INJUNCTION**

Date: December 17, 2024
Time: 9 a.m.
Courtroom: 4, 5th Floor
Judge: Honorable Edward J. Davila
Trial Date: None Set
Action Filed: November 12, 2024

DECLARATION OF JENNY S. RADESKY, M.D.

I, Jenny S. Radesky, M.D., declare and state as follows:

1. I submit this declaration in support of Defendant’s Opposition to Plaintiff’s Motion for Preliminary Injunction.

BACKGROUND & QUALIFICATIONS

2. I am a tenured Associate Professor of Pediatrics and Director of the Division of Developmental Behavioral Pediatrics at University of Michigan Medical School and C.S. Mott Children’s Hospital. In this role, I lead a team of 11 clinicians and researchers who aim to understand, treat, and advocate for children’s developmental, emotional, and educational needs. This work requires theoretical and practical knowledge about child development, parent-child relationships, and the ways children’s individual differences – such as mood regulation, executive functioning, trauma exposure, or social skills – shape the way they interact with their families and environments.

3. I am a board-certified practicing Developmental Behavioral Pediatrician with clinical expertise in developmental delays, autism spectrum disorder, attention deficit hyperactivity disorder, mood dysregulation, disruptive behavior disorders, learning disabilities, intellectual disability, parent-child relational problems, and trauma/stressor-related disorders. I have helped build clinical programs that address the growing behavioral health needs of children in Michigan, including a multidisciplinary autism assessment clinic, an early autism recognition program in primary care offices, and a school advocacy team. I work closely with legal advocates, clinical psychologists, special educators, and outpatient therapists to coordinate care for complex patients, and therefore understand the multiple levels of children’s experiences that contribute to their health and well-being.

4. I have been researching and publishing in the field of child social-emotional development and digital media for the past 15 years. My research areas include: 1) how early childhood media use is linked with emotion regulation and executive functioning; 2) how parent smartphone use affects parenting stress, parent-child interaction, and child social-emotional

1 development; 3) how parents and children use mobile devices, which we study using passive
2 sensing methods to capture data directly from smartphones and tablets; 4) analysis of educational
3 content/interactive design, including manipulative “dark pattern” design, in apps and platforms
4 popular with children; 5) assessment of the amount, type, and design of advertising in apps and
5 platforms used by children; 6) examination of data collection by apps used by young children,
6 and how this differs by child socioeconomic status; and 7) interviewing parents and children
7 about their conceptualizations of digital privacy and persuasive design. I also mentor a number of
8 pediatric trainees and doctoral students who study topics including smart home design, child-
9 computer interaction (i.e., how different design affordances influence child behavior and parent-
10 child interaction), and children’s interactions with artificial intelligence.

11 5. I have published 73 peer-reviewed articles (in addition to 4 under review or in
12 press), many in high-impact journals such as *Journal of the American Medical Association*,
13 *Pediatrics*, *JAMA Pediatrics*, and *Pediatric Research*. I have also published 18 non-peer-
14 reviewed articles, 9 book chapters, and am the editor of a developmental behavioral pediatrics
15 textbook, *Encounters with Children, Fifth Edition* (to be published in 2025). My published
16 research has been cited 12,983 times, and my current h-index is 40 (i10-index 61).

17 6. I founded and run a research program on children and media at the University of
18 Michigan Medical School, studying how modern forms of digital media—including
19 smartphones, tablets, interactive apps, mobile games, advertising, and video-sharing platforms
20 like YouTube—and their unique design features influence child social-emotional development. I
21 have a strong track record of funding from the Eunice Kennedy Shriver National Institute of
22 Child Health and Development (NICHD), including a K23 Career Development Award in 2017
23 (\$831,232), which is a 5-year award providing research training; an R03 award (\$155,584) in
24 2018 examining how design features of interactive media shape parent-toddler verbal and social
25 interactions; an R21 award (\$427,750) in 2018 examining mobile device use and social-emotional
26 development in 3-4-year-olds; and an R41 Scientific Technology Transfer Research award from
27 NICHD (\$150,000) to develop a passive sensing app, Chronicle, which I use in my research to
28 measure app and device usage by children and parents. I currently am funded by two large-scale

1 grants from NICHD, including an R01 award (\$3,538,615) that examines associations of media
2 use with executive functioning development in toddlers, and a P01 multi-site award (\$279,142)
3 and supplement (\$28,409). Over the past 8 years, I have also received funding from several
4 internal university grants, nonprofit organizations like Common Sense Media and the Boston
5 Children's Hospital Digital Wellness Lab, and the Blue Cross Blue Shield Foundation. As a
6 researcher, I understand the ethical and privacy standards around collection, storage, and
7 destruction of sensitive data about children.

8 7. Throughout my research career, I have sought cross-disciplinary collaborations
9 with computer engineers, information scientists, privacy researchers, developmental
10 psychologists, public health researchers, and policy-oriented researchers in the United States and
11 internationally, so that my research can reflect the complex ways children interact with modern
12 media. Through these collaborations, my knowledge has extended beyond pediatrics into
13 understanding data collection and marketing methods, how app-based data is collected and stored,
14 monetization practices (e.g., in-app purchases, advertising) used in digital products, and how
15 policy changes might impact business practices.

16 8. I have intentionally designed my research studies so that they can easily be
17 translated into practical parenting approaches or policies. My research has directly informed the
18 Bright Futures Guidelines for Pediatric Health Supervision, multiple American Academy of
19 Pediatrics (AAP) policy statements, petitions and complaints to the Federal Trade Commission
20 (FTC) regarding manipulative advertising and interactive design in children's apps, and has been
21 cited in U.S. Congressional testimony.

22 9. I have also served in a leadership role at the AAP since 2015, when I was recruited
23 to join the Executive Committee of the AAP Council on Communications and Media. I was lead
24 author on two AAP policy statements—*Media and Young Minds* (2016)¹ and *Digital Advertising*
25 *to Children* (2020)²—which included exhaustive reviews of the research literature on children
26

27 ¹ Radesky, J.S. and Christakis, D. (2016) "Media and young minds." *Pediatrics* 138.5.

28 ² Radesky, J.S, et al. (2020) "Digital advertising to children." *Pediatrics* 146.1.

1 and digital media. I am Chair of the Council on Communications and Media. Under my
2 leadership, the AAP has broadened its digital media guidance to not only recommend behavior
3 change by pediatric clinicians and families, but also recommend changes in technology policy
4 and digital design.

5 10. Through the AAP and as an independently-solicited research and clinical expert, I
6 have provided guidance to parents about healthy relationships with technology through my work
7 with HealthyChildren.org, PBS Parents, Common Sense Media, and CNN. I also designed the
8 AAP Family Media Plan, an online tool to help parents develop balanced relationships with
9 media. My work has been referenced in U.S. and international media outlets, including Time
10 Magazine, the New York Times, WIRED, CBS News and NPR, among others, and I have been a
11 guest on the TODAY Show twice to discuss my expertise. I offered guidance specific to families
12 coping during the COVID-19 pandemic through my work with Noggin, Scary Mommy, Common
13 Sense Media, and the University of Michigan C.S. Mott Children's Hospital.

14 11. I also serve as the Co-Medical Director of the AAP's Center of Excellence on
15 Social Media and Youth Mental Health. This Center was founded in 2022 and funded by the
16 Substance Abuse and Mental Health Services Administration to create and disseminate resources
17 on healthy social media use to teens, caregivers, teachers, clinicians, and others who support
18 youth wellbeing. However, resources are not enough. As a Center of Excellence leader, I have
19 heard repeatedly from parents, academics, and other experts that **technology design change is**
20 **needed to improve children and teens' mental health online**, rather than expecting children
21 and families to shoulder all of the burden. This message is prominent in the 2023 National
22 Academies of Science report *Social Media and Adolescent Health*,³ the U.S. Surgeon General's
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26 ³ National Academies of Sciences, Engineering, and Medicine. 2024. Social media and
27 adolescent health. Washington, DC: The National Academies Press.
28 <https://doi.org/10.17226/27396>.

1 Advisory on social media and mental health,⁴ and the Biden-Harris Interagency Task Force on
2 Kids Online Health and Safety report published in July 2024.⁵

3 12. Since July 2024, I have served as a Behavioral Expert for the U.S. Federal Trade
4 Commission (FTC) through an Intergovernmental Personnel Agreement with the University of
5 Michigan. In this governmental role, I advise FTC teams on enforcement of the Children's Online
6 Privacy Protection Act and Section 5 of the FTC Act. Through this experience, I have built
7 greater understanding of the policy landscape and how design decisions—or lack of appropriate
8 oversight or transparency of digital products used by minors—impact user health and wellbeing.

9 13. Based on my expertise in children and digital technology, I am regularly invited to
10 speak at both medical and technological conferences nationally and internationally. I have been
11 invited to give Grand Rounds at children's hospitals around the U.S., regularly give plenary
12 lectures at pediatric conferences in the U.S. and internationally (Switzerland, Slovenia), and have
13 been asked to train early childhood providers throughout the U.S. and internationally (Canada,
14 Italy, Denmark, Hong Kong, United Arab Emirates). I have also been invited to speak at
15 conferences with technology industry audiences, including Common Sense Media and the
16 MIPCOM Conference (Cannes, France).

17 14. I am regularly asked to speak to government bodies on issues related to children's
18 health and technology. My experience providing testimony includes Michigan State Senate
19 Committee on Education in April 2021 regarding children's mental health and remote schooling;
20 U.S. House of Representatives Subcommittee on Health of the Committee on Energy and
21 Commerce in October 2021 regarding children's health and technology; and an informational
22 hearing for California Assembly Committee on Privacy and Consumer Protection and Arts,
23

24 ⁴ Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory (2023).
25 <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>

26 ⁵ Online Health and Safety for Children and Youth: Best Practices for Families and
27 Guidance for Industry. Kids Online Health and Safety Task Force (2024).
28 <https://www.samhsa.gov/sites/default/files/online-health-safety-children-youth-report.pdf>

1 Entertainment, Sports, Tourism, and Internet Media in March 2022 about children and digital
2 technology. I have been an invited speaker at Federal Trade Commission Workshops about
3 children's online privacy (October 2019), dark patterns (April 2021), and stealth advertising
4 (October 2022).

5 15. I am on the Steering Committee for Designed with Kids in Mind, a coalition of
6 groups committed to the wellbeing of children and online users across the U.S. This work puts me
7 in frequent contact with other experts in my field. I also collaborate with experts in the United
8 Kingdom (U.K.), European Union (E.U.), and colleagues who work in the technology industry.

9 16. I also was recently appointed to the Board on Children Youth and Families for the
10 National Academies of Science, Medicine, and Engineering.

11 17. I have served on advisory boards for two for-profit companies, the scientific
12 advisory board for Noggin/CBS and the Board of Directors for Melissa & Doug toys. This work
13 required understanding the ways companies identify their audiences/consumers, child-centered
14 approaches in digital and non-digital product design, and how companies approach marketing and
15 data collection.

16 18. My medical training at Harvard Medical School prepared me to understand
17 complex social, cultural, psychological, and technological determinants of health in parents and
18 children. At Harvard, I completed additional coursework in public health and epidemiology and
19 an honors thesis focusing on preventive health. I completed my pediatrics residency at Seattle
20 Children's Hospital between 2007 and 2010, when mobile technologies were first bursting onto
21 the market and into family life. I witnessed smartphones, tablets, and mobile apps being
22 introduced into family communication and routines as a primary care pediatrician in 2010-2011,
23 working at a clinic that served many families working in Seattle's tech sector. I then completed
24 subspecialty fellowship training in Developmental Behavioral Pediatrics at Boston Medical
25 Center, New England's largest safety-net hospital, from 2011-2014, which solidified my expertise
26 in child development, parent-child relationships, and the systems that shape child wellbeing.

27 19. My *curriculum vitae*, which sets forth my experience and credentials more fully, is
28 attached as Exhibit A.

20. I am being compensated in the above-entitled case at an hourly rate of \$400/hour for preparing this declaration. My compensation is not in any way dependent on the outcome of this or any related proceeding.

21. The opinions in this declaration are my expert opinions, which are based on my clinical and research expertise in developmental behavioral pediatrics, public health, and media research; my experience reviewing the scientific literature about children and digital technology and writing AAP policy statements; my experience translating the scientific literature for teaching parents and professionals nationally and internationally; my experience as a board member at for-profit companies; and my conversations with domestic and international experts doing work at the intersection of technology and child development. My testimony represents my expertise as a pediatrician and researcher, not the views of the University of Michigan, American Academy of Pediatrics, or U.S. Federal Trade Commission.

22. Portions of this declaration are taken from a declaration I authored for the California Attorney General's Office in another matter, *NetChoice v. Bonta* (N.D. Cal., Case No. 5:22-cv-08861-BLF). I include those portions here in case they aid the Court in understanding the issues presented in this case.

23. If called to testify, I could and would testify competently to the truth of the matters discussed in this declaration.

OPINIONS

24. I have reviewed California's Protecting Our Kids from Social Media Addiction Act ("the Act" or SB 976). In my expert opinion, it is an essential piece of legislation to provide minors more autonomy over what they see online, eliminate unnecessary and distracting notifications during times when youth sleep and learning are more important than companies' goals for 'user engagement,' and to reduce design features that contribute to negative social comparison and extended use of digital products that interferes with youth wellbeing.

I. ONLINE HARMS TO MINORS

A. Global Consensus About Online Harms

25. It is widely accepted in pediatric communities that online harms to minors occur

1 and need to be mitigated. In this section, I describe several different harm frameworks that have
 2 informed policy decisions globally. In subsequent sections, I will describe the frequency of these
 3 harms in U.S. minors and how harms are brought about by specific design features on digital
 4 platforms.

5 26. The Organization for Economic Cooperation and Development (OECD), of which
 6 the U.S. is a member, has established a leading framework for recognizing harms online sources.⁶
 7 Its framework is also recognized by the European Commission.⁷ Most recently, the OECD
 8 published a report on *Children in the Digital Environment* stating that the digital world exposes
 9 children to a range of harms and design safeguards are needed.⁸

10 27. The World Economic Forum's Global Coalition for Digital Safety released a
 11 taxonomy of online harms in 2023 that describes how digital products amplify preexisting social
 12 harms for adult and child users. These harms include threats to personal and community safety;
 13 harm to health and well-being; hate and discrimination; violation of dignity; invasion of privacy;
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 17 ⁶ Organization for Economic Cooperation and Development (2020). Protecting Children
 18 Online: An Overview of Recent Developments in Legal Frameworks and Policies. OECD Digital
 19 Economy Papers, No. 295. Available at:
 20 [https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/06/protecting-children-](https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/06/protecting-children-online_0c385619/9e0e49a9-en.pdf)
 21 [online_0c385619/9e0e49a9-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/06/protecting-children-online_0c385619/9e0e49a9-en.pdf).

22 ⁷ Livingstone, S., & Stoilova, M. (2021). The 4Cs: Classifying Online Risk to Children.
 23 (CO:RE Short Report Series on Key Topics). Hamburg: Leibniz-Institut für Medienforschung |
 24 Hans-Bredow-Institut (HBI); CO:RE - Children Online: Research and Evidence.
 25 <https://doi.org/10.21241/ssolar.71817>.

26 ⁸ Organization for Economic Cooperation and Development. Children in the Digital
 27 Environment. Available at: [https://www.oecd.org/en/topics/children-in-the-digital-](https://www.oecd.org/en/topics/children-in-the-digital-environment.html)
 28 [environment.html](https://www.oecd.org/en/topics/children-in-the-digital-environment.html).

1 and deception and manipulation.⁹

2 28. In advisories in spring 2023, the American Psychological Association¹⁰ and the
3 Office of the U.S. Surgeon General¹¹ released advisories regarding social media and youth mental
4 health. These reports reviewed research on several harms related to social media use, including,
5 among other things, problematic/excessive social media use and sleep disruption.

6 29. The National Academies of Sciences, Engineering, and Medicine (NASEM)
7 conducted a consensus study released in December 2023 (*Social Media and Adolescent Health*)
8 that involved an in-depth review of published research and input from international scholars.¹²
9 The adolescent health and wellbeing harms enumerated in this report included: 1) negative social
10 comparison, 2) displacement of healthy activities, 3), sleep disruption, 4) interference with
11 attention and learning, 5) overuse and problematic use, 6) sexual exploitation, and 7) digital abuse
12 such as cyberbullying.

13 30. The Biden-Harris Interagency Task Force on Kids Online Health and Safety
14 involved a review of research literature in addition to listening sessions with families, youth, and
15 experts across the U.S. The Task Force Report, released in July 2024, affirmed the child harm
16 risks described in the NASEM report and provided additional focus on several topic areas that

17
18 ⁹ World Economic Forum. Toolkit for Digital Safety Design Interventions and
19 Innovations: Typology of Online Harms. Insight Report, August 2023. Available at:
20 https://www3.weforum.org/docs/WEF_Typology_of_Online_Harms_2023.pdf.

21 ¹⁰ American Psychological Association (2023). Health Advisory on Social Media Use in
22 Adolescence. Available at: [https://www.apa.org/topics/social-media-internet/health-advisory-](https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use.pdf)
23 [adolescent-social-media-use.pdf](https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use.pdf).

24 ¹¹ Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory (2023).
25 <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

26 ¹² National Academies of Sciences, Engineering, and Medicine (2024). Social media and
27 adolescent health. Washington, DC: The National Academies Press.
28 <https://doi.org/10.17226/27396>.

were raised during their nationwide information gathering: 1) problematic/excessive use, 2) cyberbullying and online harassment, 3) bias and discrimination, 4) sexual exploitation and abuse, and 5) privacy risks.

31. **Thus, there is national and global consensus that harm can result from digital platform use in minors.** Although harm categories differ slightly between global and U.S. health frameworks, they encompass the same child and teen experiences. In the testimony that follows, I focus on the harms to minors that can be tied to design features relevant to the Act.

B. Frequency of Relevant Online Harms to Minors

32. Online harms to minors vary in their **prevalence** and the **magnitude of effect** that they have on a child or teen's mental health. For example, experiences such as negative social comparison during social media use have a smaller effect on a child's depressed or anxious feelings,¹³ but are highly prevalent. Since these harms are more common, they may cause small but meaningful shifts in minors' wellbeing. Moreover, some teens with mental health vulnerabilities will be more negatively impacted by negative social comparison than others.¹⁴ On the other hand, experiences such as sexual exploitation have a large negative impact on a child's or teen's mental health but have lower prevalence throughout the population. Both lower-impact high-prevalence harms and high-impact lower-prevalence harms are important to address because they shift the trajectory of child and teen wellbeing. The following paragraphs address the frequency of relevant specific harms that have been linked to online activity.

33. **Problematic, compulsive, addiction-like** use of digital media, video games, and social media is defined as use that impairs functioning, over which the user has no control, and which gets in the way of other daily activities and/or causes problems such as interpersonal

¹³ Cunningham, S., Hudson, C. C., & Harkness, K. (2021). Social media and depression symptoms: a meta-analysis. *Research on child and adolescent psychopathology*, 49(2), 241-253.

¹⁴ National Academies of Sciences, Engineering, and Medicine. 2024. Social media and adolescent health. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/27396>.

1 conflict, poor grades, or health problems. Problematic internet use (i.e., internet use that gets in
 2 the way of daily functioning such as completing schoolwork, socializing, physical activity or
 3 sleep) has been estimated to occur in 4-6% of children 5-9 years old,¹⁵ up to 19% of teens,¹⁶ and
 4 9-11% of a college-aged sample.¹⁷

5 34. In a nationally representative U.S. sample of 11-to-15-year-old girls, over one-
 6 third stated that they felt “addicted” to social media.¹⁸ When validated rating scales are used,
 7 addiction-like social media use has been found in 5-7% of teens globally.¹⁹

8 35. Problematic, compulsive, addiction-like use of media is highly disruptive to child
 9 wellbeing and family functioning. In my clinical experience, these children and teens show
 10 significant difficulty stopping technology use or detaching from digital platforms and devices
 11 when asked. They frequently argue with their caregivers about time limits and consequences of
 12 _____

13 ¹⁵ Rega, V., Gioia, F., & Boursier, V. (2023). Problematic media use among children up to
 14 the age of 10: a systematic literature review. *International Journal of Environmental Research*
 15 *and Public Health*, 20(10), 5854.

16 ¹⁶ Pontes, H. M., Kuss, D. J., & Griffiths, M. D. (2015). Clinical psychology of Internet
 17 addiction: a review of its conceptualization, prevalence, neuronal processes, and implications for
 18 treatment. *Neuroscience and Neuroeconomics*, 11-23.

19 ¹⁷ Moreno, M. A., Eickhoff, J., Zhao, Q., Young, H. N., & Cox, E. D. (2019). Problematic
 20 internet use: a longitudinal study evaluating prevalence and predictors. *The journal of pediatrics*:
 21 *X*, 1, 100006.

22 ¹⁸ Nesi, J., Mann, S. and Robb, M. B. (2023). Teens and mental health: How girls really
 23 feel about social media. San Francisco, CA: Common Sense. Retrieved from [https://www.](https://www.common sense media.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_final_1.pdf)
 24 [commonsensemedia.org/sites/default/files/research/report/](https://www.common sense media.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_final_1.pdf) how-girls-really-feel-about-social-
 25 [media-researchreport_final_1.pdf](https://www.common sense media.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_final_1.pdf).

26 ¹⁹ Boer, M., Van Den Eijnden, R. J., Boniel-Nissim, M., Wong, S. L., Inchley, J. C.,
 27 Badura, P., . . . & Stevens, G. W. (2020). Adolescents’ intense and problematic social media use
 28 and their well-being in 29 countries. *Journal of adolescent health*, 66(6), S89-S99.

1 excessive media use, such as poor sleep, missed homework, or refusal to take part in other
2 activities.

3 36. Even among teens who do not meet criteria for problematic media use, 46% report
4 being online “almost constantly,” which has roughly doubled since 2014-2015, when rates were
5 24%.²⁰

6 37. **Sleep disruption** or poor sleep quality is extremely common in the U.S.
7 According to data from the Centers for Disease Control and Prevention from 2021, 35% of
8 children under 14 years have insufficient sleep.²¹ The prevalence of sleep disruption increases in
9 the teen years: the same 2021 CDC data shows 77% of U.S. high schoolers do not sleep the
10 recommended 8-10 hours overnight.²² Eight to ten hours of sleep per night is crucial to child
11 health to support neurological development, bone growth, and regulated endocrine system.
12 Children and adolescents with insufficient sleep have a higher risk of obesity, diabetes, injuries,
13 poor mental health, and attention problems.

14 38. A large body of observational evidence links longer digital media use to shorter
15 sleep duration, later bedtimes, more overnight awakenings, and daytime sleepiness.²³ A key
16 mechanism is thought to be mental stimulation from engaging with design features such as push
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20 ²⁰ Pew Research Center (2024). Teens and Internet, Device Access Fact Sheet. Available
21 at: <https://www.pewresearch.org/internet/fact-sheet/teens-and-internet-device-access-fact-sheet/>

22 ²¹ Centers for Disease Control and Prevention: [https://www.cdc.gov/sleep/data-](https://www.cdc.gov/sleep/data-research/facts-stats/children-sleep-facts-and-stats.html)
23 [research/facts-stats/children-sleep-facts-and-stats.html](https://www.cdc.gov/sleep/data-research/facts-stats/children-sleep-facts-and-stats.html).

24 ²² Centers for Disease Control and Prevention: [https://www.cdc.gov/sleep/data-](https://www.cdc.gov/sleep/data-research/facts-stats/high-school-students-sleep-facts-and-stats.html)
25 [research/facts-stats/high-school-students-sleep-facts-and-stats.html](https://www.cdc.gov/sleep/data-research/facts-stats/high-school-students-sleep-facts-and-stats.html).

26 ²³ Brautsch, L. A., Lund, L., Andersen, M. M., Jennum, P. J., Folker, A. P., & Andersen,
27 S. (2023). Digital media use and sleep in late adolescence and young adulthood: A systematic
28 review. *Sleep medicine reviews*, 68, 101742.

1 notifications.^{24, 25}

2 39. In our study tracking 11-to-17-year-olds' smartphones, over half (59%) of
 3 participants used their phones overnight on school nights, some of which was initiated by
 4 notifications from digital platforms: we found that apps pushed a total of 1 to 12 notifications per
 5 hour to teens' phones between midnight and 5 a.m. The most used apps overnight on school
 6 nights (when teens should be resting to prepare for school the next day) were social media,
 7 mobile games, and YouTube.²⁶

8 40. In this study, we interviewed teens to ask about their overnight technology use,
 9 and many discussed the negative spiral between technology use and poor sleep – for example, one
 10 10th grader reported the following: *"I might say that for certain apps, like TikTok, it's really hard*
 11 *to fall asleep once you use it close to when you're gonna go to sleep. I can't use it within an hour,*
 12 *or else I'd struggle ... and then I'll just get back on the app 'cause I'm not sleeping anyway."*

13 41. Research shows that teens who already have poor sleep experience more
 14 disruption to sleep from social media.²⁷ A large-scale experiment in 12-19-year-olds found that

16 ²⁴ Alonzo, R., Hussain, J., Stranges, S., & Anderson, K. K. (2021). Interplay between
 17 social media use, sleep quality, and mental health in youth: A systematic review. *Sleep medicine*
 18 *reviews*, 56, 101414.

19 ²⁵ Scott, H., Biello, S. M., & Woods, H. C. (2019). Identifying drivers for bedtime social
 20 media use despite sleep costs: The adolescent perspective. *Sleep Health*, 5 (6), 539-545.

21 ²⁶ Radesky, J., Weeks, H.M., Schaller, A., Robb, M., Mann, S., and Lenhart, A. (2023).
 22 Constant Companion: A Week in the Life of a Young Person's Smartphone Use. San Francisco,
 23 CA: Common Sense. Available at:
 24 [https://www.commonsensemedia.org/sites/default/files/research/report/2023-cs-smartphone-](https://www.commonsensemedia.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf)
 25 [research-report_final-for-web.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf).

26 ²⁷ Shimoga, S. V., Erlyana, E., & Rebello, V. (2019). Associations of social media use
 27 with physical activity and sleep adequacy among adolescents: Cross-sectional survey. *Journal of*
 28 *medical Internet research*, 21(6), e14290.

1 reducing the use of screen media after 9 pm for two weeks improved teens' sleep onset, total
2 sleep duration, and daytime attention.²⁸ These findings demonstrate a causal link between
3 nighttime media use and poor sleep.

4 42. **Privacy invasions** can take the form of interpersonal privacy violations—for
5 example, when a minor's location or activities are revealed through their activities on a digital
6 platform—or data privacy invasions.

7 43. Interpersonal privacy violations occur due to features such as being tagged in a
8 post without providing consent, automated geotagging, or real-time location-based display or
9 features. Teens have developed a repertoire of defensive usage behaviors to try to control how
10 much is displayed about them online.²⁹

11 44. In comparison, research shows that teens are less aware of institutional or
12 commercial data privacy, and focus instead on interpersonal privacy online.³⁰ However,
13 commercial data collection about minors' online activities is widespread. For example, recent
14 enforcement action by the Department of Justice and Federal Trade Commission have shown that
15 large digital platforms have collected and shared data on children and teens. For example, in a
16 complaint against TikTok, the U.S. Department of Justice reported that TikTok profiled teens by
17 grade level for advertising purposes and retained data about minors including IP addresses, device
18
19
20

21 ²⁸ Perrault, A. A., Bayer, L., Peuvrier, M., Afyouni, A., Ghisletta, P., Brockmann, C., ... &
22 Sterpenich, V. (2019). Reducing the use of screen electronic devices in the evening is associated
23 with improved sleep and daytime vigilance in adolescents. *Sleep*, 42(9), zsz125.

24 ²⁹ Chou, H. L., & Chou, C. (2023). How teens negotiate privacy on social media
25 proactively and reactively. *New Media & Society*, 25(6), 1290-1312.

26 ³⁰ Stoilova, M., Nandagiri, R., & Livingstone, S. (2021). Children's understanding of
27 personal data and privacy online—a systematic evidence mapping. *Information, Communication &*
28 *Society*, 24(4), 557-575.

1 IDs, device models, and advertising IDs.³¹ The U.S. Federal Trade Commission’s recent Staff
 2 Report about social media and video streaming platforms,³² summarizing information provided
 3 by companies in response to a 6b request, described widespread practices of collecting data about
 4 users, such as demographic information, location, engagement with content/ads, and audiences—
 5 all with the purpose of targeting users with ads. Companies also make inferences about users such
 6 as relationship status, education level, household income, or “lifestyle details” that can lead to
 7 sensitive inferences about users (e.g., sexuality). The FTC reported that companies generally
 8 offered no controls over their use of data and treated teens the same as adult users.

9 45. Even under age 13, when children’s data should be protected by the Children’s
 10 Online Privacy Protection Act (COPPA), it often is collected by mobile apps³³ and shared with
 11 marketers. It has been estimated that ad tech companies collect an average of 72 million data
 12 points about a child before they turn 13.³⁴ Because online behaviors and mobile gameplay
 13 patterns can reveal much about users’ psychological characteristics, such data collection means
 14 that children are being profiled for the purposes of marketing before they can even understand
 15 their emerging identities.

16 46. **Eating disorders** have a lifetime prevalence of 2.7% in children and teens in the

18 ³¹ Complaint at 12, *United States v. Bytedance Ltd.*, No. CV 24-06525-OWD (RAO)
 19 (C.D. Cal. August 2, 2024).

20 ³² United States Federal Trade Commission. (2024). *A Look Behind the Screens:*
 21 *Examining the Data Practices of Social Media and Video Streaming Services*. Available at:
 22 https://www.ftc.gov/system/files/ftc_gov/pdf/Social-Media-6b-Report-9-11-2024.pdf.

23 ³³ Zhao, F., Egelman, S., Weeks, H. M., Kaciroti, N., Miller, A. L., & Radesky, J. S.
 24 (2020). Data collection practices of mobile applications played by preschool-aged children. *JAMA*
 25 *pediatrics*, 174(12), e203345-e203345.

26 ³⁴ Based on an analysis by SuperAwesome’s ad exchange Rex. See
 27 [https://www.thedrum.com/news/2017/12/13/adtech-firms-collecting-vast-amounts-data-kids-](https://www.thedrum.com/news/2017/12/13/adtech-firms-collecting-vast-amounts-data-kids-despite-online-regulations)
 28 [despite-online-regulations](https://www.thedrum.com/news/2017/12/13/adtech-firms-collecting-vast-amounts-data-kids-despite-online-regulations).

U.S.³⁵ Experts suggest that there is a bidirectional relationship between a minor's predisposition to eating disorders and their use of social media, possibly to seek out information about diets and thinness, which can be accentuated through algorithmic feedback. Teens with eating disorders use social media for both recovery support and a source of rumination.³⁶

47. **Body dysmorphia**, characterized by distressing, negative evaluations of one's appearance, is estimated to occur in about 4% of teens.³⁷

48. **Body dissatisfaction** is even more prevalent among teens. In a meta-analysis of 34 papers, prevalence of body dissatisfaction globally ranged from 18.0 to 56.6% in both sexes (10.8-82.5% among boys and 19.2-83.8% among girls).³⁸

49. **Negative social comparison** of popularity, appearance, and happiness commonly occurs in youth using social media, and research suggests it may explain associations between social media use and negative affect³⁹ or depression symptoms.⁴⁰ Some teens are more

³⁵ National Institutes of Health. Eating Disorders. Available at: <https://www.nimh.nih.gov/health/statistics/eating-disorders>.

³⁶ Pruccoli, J., De Rosa, M., Chiasso, L., Perrone, A., & Parmeggiani, A. (2022). The use of TikTok among children and adolescents with Eating Disorders: experience in a third-level public Italian center during the SARS-CoV-2 pandemic. *Italian Journal of Pediatrics*, 48(1), 138.

³⁷ Collison, J., & Harrison, L. (2020). Prevalence of body dysmorphic disorder and predictors of body image disturbance in adolescence. *Adolescent Psychiatry*, 10(3), 206-218.

³⁸ Martini, M. C. S., Assumpção, D. D., Barros, M. B. D. A., Mattei, J., & Barros Filho, A. D. A. (2022). Prevalence of body weight dissatisfaction among adolescents: a systematic review. *Revista Paulista de Pediatria*, 41, e2021204.

³⁹ Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of abnormal child psychology*, 43, 1427-1438.

⁴⁰ Cataldo, I., Lepri, B., Neoh, M. J. Y., & Esposito, G. (2021). Social media usage and

(continued...)

1 susceptible to negative social comparison after browsing social media, and are also most helped
 2 by interventions to reduce this phenomenon.⁴¹ Negative social comparison is relatively common
 3 in teens; in surveys collected as part of internal research at Meta, released by a whistleblower and
 4 compiled by the Harvard Kennedy School Shorenstein Center on Media, Politics and Public
 5 Policy, at least 20% of teens experienced negative social comparison on Instagram “often” or
 6 “very often.”⁴²

7 **II. WHY MINORS ARE VULNERABLE ONLINE**

8 50. Children and teens differ from adults in several developmental domains. To briefly
 9 summarize here, children and teens have underdeveloped executive functions, meaning they have
 10 less impulse control, perspective taking, or critical thinking about digital media. They are more
 11 susceptible to rewards, both concrete/token-type rewards (e.g., coins, badges, likes) as well as
 12 social rewards from peers or parasocial relationships. In this declaration, I provide context for
 13 why children and teens are more vulnerable to specific digital design features than adults.

14 51. During the late school-age (8-10 years) and adolescent years (11-17 years), minors
 15 start showing more risk-taking and exploration behaviors. This helps them individuate from their
 16 parents and come to a sense of their own identity. Some teens are more prone to risky behaviors
 17 because of sensation-seeking or pleasure-seeking personalities. Because of the general sense of
 18 invulnerability teens experience, they often do not pay attention to the risks or future

19 _____
 20 development of psychiatric disorders in childhood and adolescence: a review. *Frontiers in*
 21 *Psychiatry*, 11, 508595.

22 ⁴¹ Weinstein, E. (2017). Adolescents' differential responses to social media browsing:
 23 Exploring causes and consequences for intervention. *Computers in Human Behavior*, 76, 396-
 24 405.

25 ⁴² Harvard Kennedy School Shorenstein Center on Media, Politics and Public Policy.
 26 (2023). *Discussion Paper: Case Study on Youth Online Harms – Project Daisy*, Appendix A
 27 (p.13). Available at: [https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf)
 28 [Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf).

consequences of their immediate behavior,⁴³ such as spending money or sending a sexually intimate image.

52. Children and teens' behavior is more reinforced by immediate gratification from rewards or high-pleasure experiences, which can lead to unhealthy habit formation.⁴⁴

53. Children and teens may also over-focus on popularity metrics such as likes and follower counts as an indicator of their self-worth.⁴⁵ This is due to their sensitivity to social status as described above, and because of relatively more concrete thinking about quantifiable popularity counts.

III. ONLINE HARMS OCCUR DUE TO DESIGN FEATURES THAT EXTEND MINORS' TIME ON DIGITAL PRODUCTS AND FOSTER COMPULSIVE USE

54. **Minors spend more time online than they intend, feel pressure to engage, and find it hard to stop using platforms.**^{46 47} This leads to problems for children and teens such as not getting a good night's sleep and displacement of other activities like physical activity or in-person activities with family or friends. Youth point to design features like infinite scroll, autoplay, and push notifications as mechanisms that extend their use, make them feel compelled

⁴³ National Academies of Sciences, Engineering, and Medicine (2024). Social media and adolescent health. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/27396>.

⁴⁴ De Decker, Annelies, et al. "Associations of reward sensitivity with food consumption, activity pattern, and BMI in children." *Appetite* 100 (2016): 189-196.

⁴⁵ American Psychological Association. (2024). Potential risks of content, features, and functions: The science of how social media affects youth. Available at:
<https://www.apa.org/topics/social-media-internet/youth-social-media-2024>.

⁴⁶ Weinstein, Emily, and Carrie James. *Behind their screens: What teens are facing (and adults are missing)*. MIT Press, 2022.

⁴⁷ 5Rights Foundation. (2021). *Pathways: How digital design puts children at risk*. Available at: <https://5rightsfoundation.com/uploads/Pathways-how-digital-design-puts-children-at-risk.pdf>.

1 to return to media and displace other things they meant to do.⁴⁸ Nearly three-quarters of teenagers
2 believe that technology companies manipulate users to spend more time on their products.⁴⁹

3 **55. Research backs up these teen perceptions: studies show that more time online**
4 **is associated with lower child and teen wellbeing** such as poorer sleep,^{50,51} more sedentary
5 behaviors,⁵² more parent-child relationship difficulties,⁵³ and more behavior problems.⁵⁴

6 _____
7 ⁴⁸ OfCom. (2022). *Research into risk factors that may lead children to harm online*.
8 Available at: [https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565)
9 [research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565)
10 [risk-factors-report.pdf?v=328565](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565)

11 ⁴⁹ Rideout, V., & Robb, M. B. (2018). *Social media, social life: Teens reveal their*
12 *experiences*. San Francisco, CA: Common Sense Media. Retrieved from
13 [https://www.commonsensemedia.org/sites/default/files/research/report/2018-social-mediasocial-](https://www.commonsensemedia.org/sites/default/files/research/report/2018-social-mediasocial-life-executive-summary-web.pdf)
14 [life-executive-summary-web.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/2018-social-mediasocial-life-executive-summary-web.pdf).

15 ⁵⁰ Janssen, Xanne, et al. "Associations of screen time, sedentary time and physical activity
16 with sleep in under 5s: A systematic review and meta-analysis." *Sleep medicine reviews* 49
17 (2020): 101226.

18 ⁵¹ Carter, Ben, et al. "Association between portable screen-based media device access or
19 use and sleep outcomes: a systematic review and meta-analysis." *JAMA pediatrics* 170.12 (2016):
20 1202-1208.

21 ⁵² Wang, Xiao, Yuexuan Li, and Haoliang Fan. "The associations between screen time-
22 based sedentary behavior and depression: a systematic review and meta-analysis." *BMC public*
23 *health* 19 (2019): 1-9.

24 ⁵³ Sampasa-Kanyinga, H., Goldfield, G. S., Kingsbury, M., Clayborne, Z., & Colman, I.
25 (2020). Social media use and parent-child relationship: A cross-sectional study of
26 adolescents. *Journal of Community Psychology*, 48(3), 793-803.

27 ⁵⁴ Eirich, Rachel, et al. "Association of screen time with internalizing and externalizing
28

(continued...)

1 **56. Design features play a role in extending users' time online and re-engaging**
 2 **them repeatedly with digital products.** Although engagement-promoting designs can make
 3 digital products more fun and satisfying to use, when they are used to excess to extend minors'
 4 time online, there is more potential for harm.⁵⁵ Moreover, the use of too many engagement-
 5 promoting designs in digital products makes teens frustrated and reduces their sense of control
 6 and autonomy.⁵⁶

7 **57.** Higher user engagement with digital products is a business goal of companies that
 8 generate revenue through advertising. In fact, companies such as Meta and Google report metrics
 9 such as 'daily active users' and advertising sales in their quarterly earnings reports to
 10 shareholders. Therefore, design teams are instructed to maximize engagement metrics such as
 11 time spent and how often users open the app.⁵⁷ The effectiveness of different designs at reaching
 12 these goals are tested through A/B testing (a process in which two versions of a design are
 13 released to different users at random; the more engaging or higher-performing design is retained).

14 **58.** In this section, I will describe the digital product design features that contribute to
 15 extended use, feelings of compulsion to return to the product frequently, and/or difficulties
 16 disengaging when the user intends. This list of design features is informed by the Biden-Harris

17 _____
 18 behavior problems in children 12 years or younger: a systematic review and meta-
 19 analysis." *JAMA psychiatry* (2022).

20 ⁵⁵ Montag, C., & Elhai, J. D. (2023). On Social Media Design,(Online-) Time well-spent
 21 and addictive behaviors in the age of surveillance capitalism. *Current Addiction Reports*, 10(3),
 22 610-616.

23 ⁵⁶ 5 Rights Foundation. (2023). Disrupted Childhood: The cost of persuasive design.
 24 Available at: [https://5rightsfoundation.com/wp-](https://5rightsfoundation.com/wp-content/uploads/2024/08/5rights_DisruptedChildhood_G.pdf)
 25 [content/uploads/2024/08/5rights_DisruptedChildhood_G.pdf](https://5rightsfoundation.com/wp-content/uploads/2024/08/5rights_DisruptedChildhood_G.pdf).

26 ⁵⁷ Lubin, N. and Iyer, R. (2023). How tech regulation can leverage product
 27 experimentation results. Lawfare. Available at: [https://www.lawfaremedia.org/article/how-tech-](https://www.lawfaremedia.org/article/how-tech-regulation-can-leverage-product-experimentation-results)
 28 [regulation-can-leverage-product-experimentation-results](https://www.lawfaremedia.org/article/how-tech-regulation-can-leverage-product-experimentation-results).

1 Interagency Task Force on Kids Online Health and Safety report,⁵⁸ extensive academic research
 2 that explores how young people interact with digital design, and published experiments that alter
 3 digital design and test effects on user wellbeing.

4 59. It is important to note that companies that operate digital products hold vast
 5 amounts of experimental data about the effectiveness of the below design features in prolonging
 6 usage sessions or keeping users coming back. Other than the internal research revealed in the files
 7 from Facebook whistleblower Frances Haugen, these experimental results are not currently
 8 available to the public.

9 **A. Algorithmic Recommendation Feeds**

10 60. In the recent FTC social media 6b Staff Report,⁵⁹ companies reported using a
 11 broad range of algorithms for content recommendation, personalization, search functionality, and
 12 to boost and measure user engagement; to target advertising to users; and to infer information
 13 about users. To meet business goals of increasing time spent on the platform, algorithms are
 14 trained to “predict the probability that content is likely to be interesting or relevant to a particular
 15 user.” In response to the 6b request, companies described complex algorithmic machine learning
 16 models that weighed or ranked a large number of data points, also called “signals,” with the end
 17 goal of boosting user engagement. Data points included user profile information, viewing history
 18 and engagement (e.g., what the user clicked on, liked, commented, on, followed, searched for,
 19 etc.), device/location information, attributes such as age/gender, engagement patterns of other
 20 users (including users with similar characteristics), and popularity of the content (e.g., volume of
 21 views, comments, time other viewers spent watching). The FTC noted that “several Companies
 22

23 ⁵⁸ Online Health and Safety for Children and Youth: Best Practices for Families and
 24 Guidance for Industry. Kids Online Health and Safety Task Force (2024).
 25 <https://www.samhsa.gov/sites/default/files/online-health-safety-children-youth-report.pdf>.

26 ⁵⁹ United States Federal Trade Commission. (2024). *A Look Behind the Screens:*
 27 *Examining the Data Practices of Social Media and Video Streaming Services*. Available at:
 28 https://www.ftc.gov/system/files/ftc_gov/pdf/Social-Media-6b-Report-9-11-2024.pdf.

acknowledged that User Engagement and activity history (including of similar users) often were heavily weighted or carried the most weight in content recommendation Algorithms.”⁶⁰

61. **Algorithmic recommendations trained to prioritize user engagement create more problematic experiences for minors.** When algorithms rank user engagement over other factors, it can lead to problems such as:

- a. More time spent: The more platforms tailor their recommendations to users’ profiles, the longer users stay on over time, shown by recent analysis of data donated by young adult TikTok users: viewing amounts increased from 107 videos per day at baseline to 233 videos per day after 80 days.⁶¹
- b. Recommendation of dangerous online challenges, which can trend rapidly and reach a large number of users before being identified and taken down by platforms.⁶² Children and teens may be attracted to risky behavior in online challenges and use performance of these challenges as a way to reaffirm belonging and achieve public recognition.⁶³
- c. Recommendation of violent and frightening videos,⁶⁴ which may trend at times of war or social unrest. For example, Black teens report being recommended more

⁶⁰ *Ibid.*

⁶¹ Zannettou, S., Nemes-Nemeth, O., Ayalon, O., Goetzen, A., Gummadi, K. P., Redmiles, E. M., & Roesner, F. (2024, May). Analyzing User Engagement with TikTok's Short Format Video Recommendations using Data Donations. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (pp. 1-16).

⁶² Bonifazi, G., Cecchini, S., Corradini, E., Giuliani, L., Ursino, D., & Virgili, L. (2024). Investigating community evolutions in TikTok dangerous and non-dangerous challenges. *Journal of Information Science*, 50(5), 1170-1194.

⁶³ Ferreira Deslandes, S., Coutinho, T., Ramos de Souza Costa Ferreira, T., & Matassoli Duran Flach, R. (2021). Online challenges among children and adolescents: Self-inflicted harm and social media strategies. *Salud colectiva*, 16, e3264.

⁶⁴ Boyd, R. W., & Swanson, W. S. (2016). The evolution of virtual violence: how mobile screens provide windows to real violence. *Pediatrics*, 138(2).

1 racialized violence on their social media feeds,⁶⁵ which is distressing and
 2 contributes to trauma symptoms.⁶⁶

- 3 d. Recommendation of eating disorder-related content through a process some
 4 companies call “preference amplification.” In other words, when teens with a
 5 tendency toward poor body image engage with posts about dieting or fitness, this
 6 content can be amplified in their feed. Teens have reported that they have a hard
 7 time getting eating disorder content out of their recommendation feed once they
 8 have engaged with it.⁶⁷
- 9 e. More negative social comparison through recommendations for “unconnected
 10 content” (i.e., accounts the user doesn’t follow) that is trending due to high
 11 engagement. Often, such trending content contains celebrities or features
 12 women’s bodies and can become concentrated in the feeds of most vulnerable
 13 teens. For example, in an internal survey of over 50,000 Instagram users in 2020,
 14 it was found that negative comparison was driven more by top accounts, which
 15 appeared in teen girls’ feeds 5 times as often as friends’ posts.⁶⁸
- 16 f. Feeds can start to be filled with creators competing for attention through use of

17 ⁶⁵ Hopelab, Common Sense Media, and NORC. *A Double-edged Sword: How diverse*
 18 *communities of youth people think about the multifaceted relationship between social media and*
 19 *mental health*. Common Sense Media. Available at:
 20 [https://www.commonsensemedia.org/sites/default/files/research/report/2024-double-edged-](https://www.commonsensemedia.org/sites/default/files/research/report/2024-double-edged-sword-hopelab-report_final-release-for-web-v2.pdf)
 21 [sword-hopelab-report_final-release-for-web-v2.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/2024-double-edged-sword-hopelab-report_final-release-for-web-v2.pdf).

22 ⁶⁶ Tynes, B. M., Willis, H. A., Stewart, A. M., & Hamilton, M. W. (2019). Race-related
 23 traumatic events online and mental health among adolescents of color. *Journal of Adolescent*
 24 *Health*, 65(3), 371-377.

25 ⁶⁷ Farthing, R. (2022) “Designing for Disorder.” Fairplay: [https://fairplayforkids.org/wp-](https://fairplayforkids.org/wp-content/uploads/2022/04/designing_for_disorder.pdf)
 26 [content/uploads/2022/04/designing_for_disorder.pdf](https://fairplayforkids.org/wp-content/uploads/2022/04/designing_for_disorder.pdf).

27 ⁶⁸ Harvard Kennedy School Shorenstein Center on Media, Politics and Public Policy.
 28 (2023). *Discussion Paper: Case Study on Youth Online Harms – Project Daisy*, Appendix A
 (p.14). Available at: [https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf)
[Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf).

1 violent, scary, or sexualized images⁶⁹ and teens themselves endorse posting more
2 extreme content to get more followers.⁷⁰

- 3 g. Arguments between caregivers and children: In interviews, parents report feeling
4 frustrated with the unpredictable negative content that appears in their child's
5 social media feed, the embedded links in content that can take minors to unsafe
6 activities (e.g., pornography), and the rude/unrealistic norms that trending
7 creators can instill in viewers.⁷¹

8 62. In addition, algorithmic recommendation feeds have several design features that
9 prolong use, which I describe in the following sections.

10 63. **Low-friction infinite scroll** has been found to keep users on digital products
11 longer, in part because it induces *normative dissociation*, a mental “flow” state in which people
12 feel “spaced out” and have reduced self-awareness or memory for what they perceived during the
13 state of normative dissociation.⁷² Many people use digital products to seek out normative

14 ⁶⁹ Radesky, J., Bridgewater, E., Black, S., O’Neil, A., Sun, Y., Schaller, A., ... &
15 Campbell, S. W. (2024). Algorithmic Content Recommendations on a Video-Sharing Platform
16 Used by Children. *JAMA Network Open*, 7(5), e2413855-e2413855.

17 ⁷⁰ OfCom. (2022) Research into risk factors that may lead children to harm online.
18 Available at: [https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565)
19 [research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565)
20 [risk-factors-report.pdf?v=328565](https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/keeping-children-safe-online/risk-factors-that-may-put-children-at-harm-online/children-risk-factors-report.pdf?v=328565).

21 ⁷¹ Radesky, J.S., Bradley, B., Martin, E., Williams, E., Kearney, C., Kistin, C. (2024).
22 *Harnessing Parent Wisdom: Community-informed solutions for social media and youth mental*
23 *health*. American Academy of Pediatrics Center of Excellence on Social Media and Youth Mental
24 Health. Available at:
25 https://downloads.aap.org/AAP/PDF/Community_Informed_Solutions_for_Social_Media_and_Youth_Mental_Health.pdf.

26 ⁷² Baughan, A., Zhang, M. R., Rao, R., Lukoff, K., Schaadhardt, A., Butler, L. D., &
27 Hiniker, A. (2022, April). “I Don’t Even Remember What I Read”: How Design Influences

28 (continued...)

dissociation as an escape from stress (e.g., by reading or listening to music), but in studies about digital products, an extended time spent in such dissociation leads to regret and self-blame that has been called the “30-minute Ick Factor”⁷³ – meaning that after about 30 minutes, users feel that their scrolling is less meaningful and they are less in control of disengaging. This aligns with internal TikTok documents suggesting that approximately 35 minutes of scrolling is needed before users have trouble disengaging, as reported by National Public Radio after reviewing the unredacted Kentucky Attorney General’s October 2024 complaint against TikTok.⁷⁴

64. **Autoplay** is a design in which videos automatically play when the prior video ends, or the user scrolls and hovers over the video. Research on autoplay suggests that it reduces users’ sense of agency because it distracts them from searching or finding the video they initially intended.⁷⁵ In interview studies, parents report that autoplay contributes to conflict with their children when they try to get their child to stop using media.⁷⁶ In an experimental study, children showed more negative behavior when asked to transition away from an app with autoplay

Dissociation on Social Media. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (pp. 1-13).

⁷³ Tran, J. A., Yang, K. S., Davis, K., & Hiniker, A. (2019, May). Modeling the engagement-disengagement cycle of compulsive phone use. In *Proceedings of the 2019 CHI conference on human factors in computing systems* (pp. 1-14).

⁷⁴ National Public Radio, Oct 11 2024: TikTok executives know about app’s effect on teens, lawsuit documents allege. Available at: <https://www.npr.org/2024/10/11/g-s1-27676/tiktok-redacted-documents-in-teen-safety-lawsuit-revealed>.

⁷⁵ Lukoff, K., Lyngs, U., Zade, H., Liao, J. V., Choi, J., Fan, K., ... & Hiniker, A. (2021, May). How the design of youtube influences user sense of agency. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (pp. 1-17).

⁷⁶ Hiniker, Alexis, et al. "Screen time tantrums: How families manage screen media experiences for toddlers and preschoolers." *Proceedings of the 2016 CHI conference on human factors in computing systems*. 2016.

1 compared to apps without autoplay or a print book.⁷⁷

2 65. To summarize, algorithmic recommendation feeds with infinite scroll and autoplay
3 extend minors' time online through using user data to predict what they are likely to click on or
4 watch next, making it more likely that users will keep consuming content (and thereby generate
5 advertising revenue).

6 **B. Design Features That Promote Engagement: Notifications, Time-Limited**
7 **Features, and Social Quantification**

8 66. **Notifications from digital products are distracting and occur at unnecessary**
9 **times of day.**

10 67. Notifications from digital products alert the user to new communication, content,
11 or other new activity on the platform via audio, visual, and/or haptic stimuli. Notifications cause
12 an involuntary orienting response, bringing the user's attention to a digital product and causing
13 delayed responses to whatever else the user is doing. Multiple studies in college classrooms have
14 demonstrated that phone notifications cause higher error rates and lower recall of taught
15 material.⁷⁸ In experiments, teens show particularly more distractibility and physiologic changes in
16 response to phone notifications, compared to adults.⁷⁹

17 68. In our study tracking the smartphones of over 200 11-to-17-year-olds,⁸⁰ we

18 ⁷⁷ Munzer, Tiffany G., et al. "Tablets, toddlers, and tantrums: The immediate effects of
19 tablet device play." *Acta paediatrica (Oslo, Norway: 1992)* 110.1 (2021): 255.

20 ⁷⁸ Rosen, L. D. (2017). The distracted student mind—enhancing its focus and
21 attention. *Phi Delta Kappan*, 99(2), 8-14.

22 ⁷⁹ Whiting, W. L., & Murdock, K. K. (2021). Notification alert! Effects of auditory text
23 alerts on attention and heart rate variability across three developmental periods. *Quarterly*
24 *Journal of Experimental Psychology*, 74(11), 1900-1913.

25 ⁸⁰ Radesky, J., Weeks, H.M., Schaller, A., Robb, M., Mann, S., and Lenhart, A. (2023).
26 Constant Companion: A Week in the Life of a Young Person's Smartphone Use. San Francisco,
27 CA: Common Sense. Available at:

28 (continued...)

1 measured the frequency and timing of notifications from different apps. On a typical day,
 2 participants received a median of 237 notifications, with a maximum of 4500 per day in one
 3 participant. About a quarter (23%) of notifications arrived during school hours, and about 5%
 4 during school night hours, two times of day that are more disruptive to wellbeing. Very few
 5 participants received no notifications at all during school hours or school night hours. Snapchat
 6 and Discord ranked highest in the number of notifications sent to participants in a typical day,
 7 with some participants receiving hundreds of messages from these platforms.

8 69. Teens interviewed for this study did not find notifications to necessarily be a
 9 positive thing, and they exerted energy to manage and mute notifications. Some teens recognized
 10 how platforms tried to get their attention through adding new types of irrelevant notifications.
 11 One 11th grader made the following observation: *“Another thing with notifications, one thing I’ve*
 12 *noticed with Instagram is, over time, they keep adding new, different types of notifications. Like*
 13 *when they rolled out reels, they had a notification like, ‘Check out the most watched reels for*
 14 *today.’ So over time, you have to keep turning off those specific notifications because I still wanna*
 15 *receive messages from my friends through DMs. I don’t wanna receive those kind of unimportant*
 16 *messages.”*

17 70. **Designs that elicit Fear of Missing Out (FoMO)** are common on social
 18 platforms. FoMO is defined as “pervasive apprehension that others might be having rewarding
 19 experiences from which one is absent and is characterised by the desire to stay continually
 20 connected with what others are doing.”⁸¹ Researchers have interviewed teens and young adults

21
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 23 _____
 24 [https://www.common sense media.org/sites/default/files/research/report/2023-cs-smartphone-](https://www.common sense media.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf)
 25 [research-report_final-for-web.pdf](https://www.common sense media.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf).

26 ⁸¹ Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational,
 27 emotional, and behavioral correlates of fear of missing out. *Computers in human behavior*, 29(4),
 28 1841-1848.

about design features that contribute to FoMO, which include:⁸²

- a. Tagging that leads to a fear of missing the ability to interact through social reciprocity with someone who tagged them
- b. Ephemeral content that leads to a fear of missing information
- c. Recommendations to build network that leads to fears of not having a big enough friend group and taps into the need for belonging and popularity
- d. Social traces that show when others are online, such as indicators that someone is active on a platform but is not reacting to the user's posts or messages, that lead to fears of missing important interactions
- e. Impression and like counts that trigger pressure to increase popularity or be interesting to other people
- f. Notifications that can trigger a fear of missing important information

71. Users who experience more FoMO have higher rates of problematic social media use and addiction-like behaviors.⁸³

72. **Social quantification and quantified approval** such as likes, hearts, friend numbers, scores, and streaks have been linked with negative social comparison in Meta's internal research and independent studies.⁸⁴ In Project Daisy, an internal Meta experiment in which Instagram users were randomly assigned to visible or hidden Like counts, there was a reported 2% reduction in negative social comparison in the users with hidden Like counts. Teen users reported that hiding Like counts made them less likely to care about likes or compare the number

⁸² Alutaybi, A., Arden-Close, E., McAlaney, J., Stefanidis, A., Phalp, K., & Ali, R. (2019, October). How can social networks design trigger fear of missing out?. In *2019 IEEE International Conference on Systems, Man and Cybernetics (SMC)* (pp. 3758-3765). IEEE.

⁸³ Elhai, J. D., Yang, H., & Montag, C. (2020). Fear of missing out (FOMO): overview, theoretical underpinnings, and literature review on relations with severity of negative affectivity and problematic technology use. *Brazilian Journal of Psychiatry*, 43(2), 203-209.

⁸⁴ Wallace, E., & Buil, I. (2021). Hiding Instagram Likes: Effects on negative affect and loneliness. *Personality and Individual Differences*, 170, 110509.

1 of Likes they received with others.⁸⁵

2 73. Socially anxious teens report that quantifying relationships increases their anxiety:
 3 *“It becomes almost stressful to post anything, because the amount of likes you get is your social*
 4 *standing. Your popularity or how much you’re liked is based upon numbers on a screen.”*
 5 reported a 16-year-old interviewed by 5 Rights Foundation.⁸⁶ Rather than focusing on the quality
 6 of burgeoning relationships in the teen years, an essential step in identity development, many
 7 teens over-focus on quantity of approval from online contacts, many of whom they may not
 8 know. As one 13-year-old stated: *“[There is] pressure of losing your friends and ending lifelong*
 9 *friendships if you forget to send a streak one day.”*

10 74. In summary, engagement-prolonging designs such as push notifications and
 11 designs that elicit social comparison and quantification are leveraging psychological mechanisms
 12 to keep users engaged so that companies can meet their business objectives. However, as
 13 reviewed in Section II of this declaration, children and teens are in a developmental phase in
 14 which they are highly susceptible to these psychological mechanisms and therefore feel pressured
 15 to engage for longer, and more frequently, than they would have otherwise planned. This leads to
 16 feelings of regret and displacement of healthy behaviors.

17 **IV. STRATEGIES TO MITIGATE ONLINE HARMS**

18 75. Digital products have a responsibility to mitigate the harms that occur to minors.

19 76. Although some social media platforms have made attempts to mitigate harms by
 20 creating teen accounts with more privacy features, filtered content, or time limits, without

22 ⁸⁵ Harvard Kennedy School Shorenstein Center on Media, Politics and Public Policy.
 23 (2023). *Discussion Paper: Case Study on Youth Online Harms – Project Daisy*, Appendix A
 24 (p.15-16). Available at: [https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf)
 25 [Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf](https://shorensteincenter.org/wp-content/uploads/2023/11/Discussion-Paper_Youth-Online-Harms-and-Project-Daisy_For-Shorenstein-Publication.pdf).

26 ⁸⁶ 5 Rights Foundation. (2023). *Disrupted Childhood: The cost of persuasive design*.
 27 Available at: [https://5rightsfoundation.com/resource/updated-report-disrupted-childhood-the-cost-](https://5rightsfoundation.com/resource/updated-report-disrupted-childhood-the-cost-of-persuasive-design/)
 28 [of-persuasive-design/](https://5rightsfoundation.com/resource/updated-report-disrupted-childhood-the-cost-of-persuasive-design/).

1 transparency and accountability, we don't know whether these measures actually mitigate harms.
2 We also don't know how many youth users turn these settings off.

3 77. There are now several global initiatives embracing safety-by-design and privacy-
4 by-design approaches for minors. These include several approaches such as preventing profiling
5 of minors, reducing extended use, reducing product features that quantify approval, and
6 increasing accountability so that users know what the risks are and that their flags or reports are
7 responded to.

8 78. Youth, parents, the Biden-Harris Interagency Task Force on Kids Online Health
9 and Safety, and the National Academies of Science and Medicine (NASEM) report recommend
10 that such features be uniform across products. Specifically, NASEM recommended age-
11 appropriate design features including:

- 12 a. Enhanced privacy protections
- 13 b. Auditing features, identifying their risks, and mitigating them
- 14 c. Discouraging persuasive design features that extend use or re-engagement
- 15 d. Algorithmic responsibility for what content is promoted

16 79. Digital literacy interventions are necessary but insufficient. As the NASEM report
17 notes, "the complexity and pace of the online environment far exceed what adolescents—or any
18 layperson—could be reasonably expected to understand."

19 80. Solutions are feasible. For example, experiments described in the academic
20 literature reviewed above include innovative designs such as

- 21 a. Options to increase the time that ephemeral content is available, or event/content
22 recorders that allow a user to see ephemeral content the next time they are online
- 23 b. Batching and muting of push notifications at particular times of day (school
24 hours, overnight hours)
- 25 c. Status settings that normalize being away from platforms.
- 26 d. Hiding social quantification (e.g., likes, follower counts) for minors
- 27
- 28

- e. Platform home pages that remove recommendation feeds and promote user agency

V. CALIFORNIA'S PROTECTING OUR KIDS FROM SOCIAL MEDIA ADDICTION ACT

81. The Protecting Our Kids from Social Media Addiction Act would prevent online services and mobile apps from offering an addictive feed to minors.

82. Restricting the ability of companies to furnish such feeds to minors, and giving minors alternate feeds that are shaped by the accounts they follow (not algorithmically predicting what they might engage with next), would accomplish two important outcomes.

83. First, it would provide children and teens more autonomy to search for and follow what they want online, rather than decisions about what they should watch being made for them by a computer that is acting in the interest of more advertising revenue. Youth advocacy groups have called for improved control over what they see on social media feeds,⁸⁷ to prevent the negative experiences that come with unwanted, upsetting content showing up on their feed.

84. Second, minors would be able to more easily disengage from a feed that is not actively trying to engage them for longer periods of time, and go pursue the activities that are healthy, support their education, and/or give them a sense of purpose.

85. The Act restricts the ability of these companies to send notifications to minors during overnight or school hours. This is an important step toward reducing unnecessary sleep disruption and helping students feel focused and engaged the next school day. It also sets community norms that social media and other highly engaging digital services can be put down at night. Teens report feeling pressure to be available when they know their friends are on social media at night;⁸⁸ under this Act, teens would no longer receive frequent alerts about friends' overnight online activities and pressure to respond would be reduced.

86. Student smartphone and social media use in the classroom are a major source of stress to U.S. teachers due to their negative impact on student engagement and the extra work it

⁸⁷ See Design It For Us campaign: <https://designitforus.org/>.

⁸⁸ Weinstein, Emily, and Carrie James. *Behind their screens: What teens are facing (and adults are missing)*. MIT Press, 2022.

1 takes to enforce phone policies.⁸⁹ This Act will make enforcement of school phone policies easier
 2 by removing the ability of unnecessary apps to ping for students' attention.

3 87. The Act also allows parents of minors to turn off notifications during specific
 4 hours and set time limits on use of algorithmic feeds. This would help provide boundaries that
 5 parents say can be very difficult to enforce when they are essentially fighting against an algorithm
 6 that has learned everything their child is attracted to.⁹⁰

7 88. The Act would also limit minors' viewing of the number of likes, follower counts,
 8 or other forms of feedback by default. As reviewed in my declaration above, this would help
 9 reduce negative social comparison and would prevent minors from seeking high levels of
 10 feedback through posting extreme or risky content. From a mental health standpoint, it would
 11 reduce the false quantification of self-worth that 'likes' represent, and upon which children and
 12 teens can over-focus. Feeling self-worth from the inside out, not based on reactions from others,
 13 is a core aspect of mental wellbeing.

14 89. Finally, the Act would set minors' accounts to private by default. This is a critical
 15 step in preventing exploitation of children and teens.

16 CONCLUSIONS

17 90. Children and teens have generated billions of dollars in revenue for internet

18
 19 ⁸⁹ Hatfield, J. (2024). 72% of U.S. high school teachers say cellphone distraction is a
 20 major problem in the classroom. Pew Research Center. Available at:
 21 [https://www.pewresearch.org/short-reads/2024/06/12/72-percent-of-us-high-school-teachers-say-](https://www.pewresearch.org/short-reads/2024/06/12/72-percent-of-us-high-school-teachers-say-cellphone-distraction-is-a-major-problem-in-the-classroom/)
 22 [cellphone-distraction-is-a-major-problem-in-the-classroom/](https://www.pewresearch.org/short-reads/2024/06/12/72-percent-of-us-high-school-teachers-say-cellphone-distraction-is-a-major-problem-in-the-classroom/).

23 ⁹⁰ Radesky, J.S., Bradley, B., Martin, E., Williams, E., Kearney, C., Kistin, C. (2024).
 24 *Harnessing Parent Wisdom: Community-informed solutions for social media and youth mental*
 25 *health*. American Academy of Pediatrics Center of Excellence on Social Media and Youth Mental
 26 Health. Available at:
 27 https://downloads.aap.org/AAP/PDF/Community_Informed_Solutions_for_Social_Media_and_Youth_Mental_Health.pdf.
 28

1 services and mobile apps that keep them engaged through addictive feeds and design features that
2 capture and hold onto their attention. These design features—including algorithmic feeds
3 designed to increase user engagement, notifications that ping for attention without regard for
4 whether a young user is trying to sleep or focus on classwork, and designs that make users afraid
5 of losing social status if they don't return to the platform again and again—contribute to extended
6 use and feelings of frustration and regret. In our individualistic society, users typically blame
7 themselves for being “addicted” or wasting their time online; yet this is not a matter of individual
8 weakness in children and teens. At a digital ecosystem level, the designs at the root of these
9 feelings are pervasive, are purposeful, and are wholly changeable.

10 91. In my years as a clinician and expert on digital media and children, I have
11 repeatedly heard from families that automated, algorithm-driven feeds make parenting harder
12 because they introduce emotionally arousing content and prolong media use. Parents describe
13 their children stumbling upon frightening videos or dangerous challenges; teens describe being
14 fed violent content or beauty influencers who make them feel “less than,” and many wonder why
15 a computer should be making decisions about how they spend their time. This raises important
16 questions about autonomy; this Act allows young users to have more control over what appears in
17 their feed and families to place boundaries around how these technologies consume young
18 peoples' valuable time and attention.

19 92. Over the past few years, investigations into the internal research conducted by
20 large online platforms have revealed fascinating insights about experiments run on design
21 features and how they engage users. Design choices such as likes, time-limited ephemeral posts,
22 and notifications have been created with clear business objectives, but come with collateral
23 damage to child and teen sleep, social pressure, and distraction.

24 93. California has an opportunity to ensure that children and teens have access to
25 internet services and mobile apps that provide them opportunities to learn and connect with
26 friends (not strangers), seek out their interests without being taken on a detour by algorithmic
27 recommendations, and then disengage from technology as they wish. I appreciate your
28 consideration of this declaration.

1 I declare under penalty of perjury under the laws of the United States of America that the
2 foregoing is true and correct.

3 Executed on December 1, 2024, at Ann Arbor, Michigan.

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8 _____
9 Jenny S. Radesky, M.D.
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EXHIBIT A

Jenny Radesky
Associate Professor
734-647-3759 - jradesky@umich.edu

Education and Training

Education

08/1997-05/2001	BA, Johns Hopkins University, Baltimore, MD
08/2002-06/2007	MD, Harvard Medical School, Boston, MA

Postdoctoral Training

07/2007-06/2010	Residency, Pediatrics, University of Washington/Seattle Childrens Hospital, Pediatrics, Seattle, WA
07/2011-06/2014	Clinical Fellow, Developmental Behavioral Pediatrics, Boston University School of Medicine, Pediatrics, Boston, MA

Certification And Licensure

Certification

10/2010-12/2020	American Board of Pediatrics, General
01/2015-12/2025	American Board of Pediatrics, Developmental Behavioral Pediatrics

Licensure

	Michigan, Controlled Substance
	Michigan, Medical License
01/2016-Present	Michigan, Medical License
01/2016-Present	Michigan, DEA License
01/2016-Present	Michigan, Controlled Substance

Work Experience

Academic Appointment

07/2014-01/2016	Assistant Professor, Pediatrics, Boston University School of Medicine, Boston
01/2016-08/2022	Assistant Professor, Pediatrics, University of Michigan - Ann Arbor, Ann Arbor
09/2022-Present	Associate Professor in Pediatrics - Development - Behavioral, Pediatrics, University of Michigan - Ann Arbor, Ann Arbor, (Tenured)

Clinical Appointments

08/2010-06/2011	Pediatrician, Pediatric Associates Inc, Bellevue, WA
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Research Interests

- My research examines parent mobile device use, young children's use of mobile and interactive media, parent-child interaction, and social-emotional development.

Clinical Interests

- Advocacy, underserved populations, autism spectrum disorder, early childhood

Grants

Current Grants

Children and Technology Advisor - Jenny Radesky - FTC IPA:

PI

FTC-US

07/2024 - 06/2025

\$63,115

P01HD109907: *Growing up in a Digital World: A synergistic approach to understanding media use in children ages 1-8:*

PI

NIH-DHHS-US-SubK sourced funding through Georgetown University

09/2022 - 08/2025

\$279,142

K23HD105988: *Longitudinal associations of maternal mobile device use and maternal-infant wellbeing:*

Consultant on (Principal Investigator: Tiffany Munzer)

NIH-DHHS-US

07/2022 - 06/2027

\$837,000

R01HD102370: *Technology Use and Emerging Executive Functioning in Early Childhood:*

PI

NIH-DHHS-US

04/2021 - 03/2026

\$2,873,938

Submitted - Open

R01: *Thriving in a Digital World: Examining Trajectories of Healthy and Problematic Media use from Childhood to Early Adolescence:*

PI

NIH-DHHS-US-SubK sourced funding through Brigham Young University

04/2025 - 03/2030

\$53,367

Past Grants

P01HD109907: *Growing up in a Digital World: A synergistic approach to understanding media use in children ages 0-8:*

PI

NIH-DHHS-US-SubK sourced funding through Georgetown University

09/2023 - 08/2024

\$28,409

SAMHSA Center of Excellence on Social Media and Mental Health:

PI

SAMHSA-DHHS-US-SubK sourced funding through American Academy of Pediatrics

09/2022 - 09/2024

\$224,795

Planning the Metaverse for Kids: Social Gaming Walk-Through Study:

PI
Children's Hospital Corporatio
06/2022 - 05/2024
\$121,830

Teen Smartphone Pilot:

PI
Common Sense Media
02/2022 - 05/2023
\$60,798

Pediatric Early Autism Recognition System: PEARS:

Mentor (Principal Investigator:Nicole Hamp)
BCBSM
09/2021 - 12/2022
\$9,100

R21NR019402:Healthy Digital Habits in Parents of Infants:

PI
NIH-DHHS-US-SubK sourced funding through Parkview Hospital, Inc
05/2021 - 04/2023
\$57,255

YouTube Content Analysis:

PI
Common Sense Media
02/2021 - 04/2022
\$45,600

YouTube Content Analysis:

PI
Common Sense Media
01/2020 - 01/2021
\$21,386

R41HD:Beyond Screen Time: Developing an objective mobile media measurement tool:

PI
NIH-DHHS-US-SubK sourced funding through Open Lattice, Inc.
10/2019 - 08/2020
\$51,166

R41HD100230:Beyond Screen Time: Developing an objective mobile media measurement tool:

Funded by
Eunice Kennedy Shriver National Institute of Child Health and Human Development
09/2019 - 08/2020
\$150,000

R21HD094051:Longitudinal associations between preschooler emotion regulation, executive function, and digital media use.:

PI
NIH-DHHS-US
08/2018 - 07/2021
\$429,000

R03HD094077: *Parent-toddler interactions during electronic versus print book reading:*

PI

NIH-DHHS-US

08/2018 - 07/2020

\$156,000

K23HD092626: *Parent Mobile Device Use and Parent-Child Interaction:*

PI

NIH-DHHS-US

08/2017 - 05/2022

\$793,103

Electronic versus print books: Differences in parent-toddler interactions and toddler behavioral regulation:

Mentor (Principal Investigator: Tiffany Munzer)

Academic Pediatric Association

03/2017 - 10/2018

\$14,780

Honors and Awards

National

2017	AAP Communication and Collaboration Award, American Academy of Pediatrics
2019	Student Research Award, Academic Pediatric Association, Mentor, Marisa Meyer
2023	AAP Innovation Award, American Academy of Pediatrics, For the Family Media Plan

Institutional

2001	Phi Beta Kappa, Johns Hopkins University
2007	New England Pediatric Society Prize, Harvard Medical School
2007	Presidential Scholars Program, Public Service Initiative, Harvard Medical School, Provided loan forgiveness for graduates who worked in subspecialties focusing on public service
2013 - 2014	Zuckerman Fellowship, Boston University School of Medicine, Pediatrics
2017 - 2018	Elizabeth Caroline Crosby Award, University of Michigan, ADVANCE Program
2018	Top Teacher Award, University of Michigan Medical School, Pediatrics

Study Sections, Editorial Boards, Journal & Abstract Review

Study Sections

International

2020 - Present	Advisory Board (supported by UNICEF), Power of Zero Anti-Bullying Initiative, (Standing Member)
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National

2019 - 2022	Study Section, NICHD Study Section, (Ad Hoc)
2020 - Present	Advisory Board, Common Sense Media Early Childhood Initiative, (Standing Member)
2021 - Present	Advisory Board, Child Trends News Service for 2 NSF grants, Child Trends, (Standing Member)

2023 - 2024	Rudd Center Healthy Eating Research Digital Advertising Expert Panel, (Standing Member)
2024 - Present	Board on Children Youth and Families, National Academies of Science, Engineering, and Medicine, (Standing Member)
2024	SBIR Study Section, NICHD Study Section, (Ad Hoc)

Editorial Boards / Journal & Abstract Reviews

Editorial Boards

2017 - 2020	Editor, Developmental Behavioral Pediatrics, New England Journal of Medicine Journal Watch: Pediatrics and Adolescent Medicine
2018 - 2019	Editor, Challenging Cases, Journal of Developmental Behavioral Pediatrics
2019 - 2020	Guest Editor, Cyberpsychology, Behavior, and Social Networking special issue on Children and Smartphones

Journal Review

2011 - 2023	JAMA Pediatrics
2012	Archives of Disease in Childhood
2013	International Journal of Affective Disorders
2014 - 2023	Pediatrics
2015	Infancy
2015	Early Human Development
2015 - 2017	Maternal Child Health Journal
2015 - 2024	Journal of Developmental Behavioral Pediatrics
2017	PLOS One (Ad Hoc)
2017 - 2020	Computers in Human Behavior (Ad Hoc)
2018 - 2019	Child Development (Ad Hoc)
2019	BMJ Open
2020	Infant Behavior and Development
2020 - 2023	Acta Paediatrica
2021	Journal of Children and Media
2021	New England Journal of Medicine (Ad Hoc)
2021	Journal of Medical Internet Research (Ad Hoc)
2021 - 2024	JAMA Network Open

Teaching

Mentorship

Resident

07/2018-05/2019	Rebecca Lane, University of Michigan Medical School, Publication of review/commentary
08/2022-Present	Sarah Frankl, University of Michigan Medical School, Pediatric Neurology, Manuscript in preparation

Faculty Member

07/2019-Present Tiffany Munzer, University of Michigan Medical School, Multiple publications and national presentations

09/2022-Present Elizabeth Milkovich, Children's Mercy Hospital, Applying for K23 award

09/2023-Present Sarah DeHaan, University of Michigan Medical School, General Pediatrics, Mentoring as mini-fellow in DBP; Project in progress

Clinical Fellow

07/2016-06/2019 Tiffany Munzer, University of Michigan Medical School, Multiple publications and conference presentations

07/2018-06/2021 Chioma Torres, University of Michigan Medical School, 3 publications

08/2019-Present Nicole Hamp, University of Michigan Medical School, 1 publication, 1 national presentation, 1 manuscript in preparation

01/2020-06/2021 Kimberley Levitt, University of Michigan Medical School, 1 publication, 1 manuscript in preparation

Medical Student

09/2021-09/2023 Nirmeen Chouaib, Michigan State University, Manuscript

Graduate Student

07/2019-Present Kaiwen Sun, University of Michigan School of Information, Multiple publications and international presentations

Undergraduate Student

10/2017-01/2021 Marisa Meyer, University of Michigan, 2 publications; 2 national presentations; 2019 APA best abstract award; Mentee won Dept of Psychology award for her thesis, which I mentored

07/2019-09/2020 Fangwei Zhao, University of Michigan, Publication

09/2019-09/2022 Caroline McLaren, University of Michigan, 2 publications

05/2024-Present Madalynn Woods, University of Michigan, Psychology, SRCD abstract, manuscript in submission

Teaching Activity**International**

01/2024-01/2024 Keynote at Early Childhood Conference, VIA University, Denmark

National

04/2015-04/2015 Pediatric Academic Societies State-of-the-Art Plenary: "Parent media use and parent-child interaction." (San Diego, CA)

04/2016-04/2016 2016 Pediatric Academic Societies Topic Symposium: "Digital Technology and the Word Gap: Barrier or Opportunity?" (Baltimore, MD)

05/2017-05/2017 2017 Pediatric Academic Societies, Developmental Behavioral Pediatrics Special Interest Group. "Digital Media and Child Development: Policy Perspectives." (San Francisco, CA)

05/2017-05/2017 2017 Pediatric Academic Societies Plenary Lecture. "Digital Media Use and Cognitive Self-Regulation." (San Francisco, CA)

10/2017-10/2017 2017 Society for Developmental Behavioral Pediatrics, Annual Conference. "Autism Spectrum Disorder and Digital Media." (Cleveland, OH)

11/2017-11/2017 Obesity Week Conference. "Using technology to measure technology." (Washington D.C.)

05/2018-05/2018	2018 Pediatric Academic Societies, Invited Science Chair, "Digital Media and Vulnerable Populations." (Toronto, Canada)
11/2018-11/2018	2018 American Academy of Pediatrics National Conference and Exhibition: "Digital Media and Early Childhood: The Good, The Bad, and the Unknown." (Orlando, FL)
04/2019-04/2019	Pediatrics Academic Societies Annual Conference, Topic Symposium "Digital Natives: The Changing Nature of Children's Media Use" (Baltimore MD)
10/2019-10/2019	American Academy of Pediatrics National Conference and Exhibition. "Social Media: The Good, Bad, and Unknown" (New Orleans, LA)
10/2019-10/2019	American Academy of Pediatrics National Conference and Exhibition. "Advertising in Apps for Young Children." (New Orleans, LA)
10/2019-10/2019	American Academy of Pediatrics National Conference and Exhibition Plenary Presentation: "Gamified Childhood" (New Orleans, LA)
10/2020-10/2020	2020 American Academy of Pediatrics National Conference and Exhibition, "Digital Health: Helping Families Navigate Digital Media." (Virtual Conference)
03/2023-03/2023	Lecture regarding social media, technology, and youth mental health, Fairfax School Health Advisory Council, Guest Lecturer
07/2023-07/2023	Training on children and media for social workers and child welfare professionals in California, Center for Innovation and Resources, Inc
09/2023-11/2023	ECHO 6-week course on Social Media and Youth Mental Health, American Academy of Pediatrics, ECHO Course Director
09/2023-09/2023	Expert roundtable on social media and youth mental health, White House Interagency Task Force on Kids Online Safety, Roundtable member
11/2023-11/2023	Training for educators on child/adolescent social media use, National Center for Safe Secure Learning Environments, Panelist
11/2023-02/2024	ECHO 6-week course on Social Media and Youth Mental Health, American Academy of Pediatrics, ECHO Course Lead
12/2023-12/2023	Web-based Workshop on Healthy Media Use, Boston Public Schools
09/2024-Present	Workshop: Strengths-based approaches to supporting healthy media use in primary care, American Academy of Pediatrics, Workshop director

Regional

03/2014-03/2014	Steven J. Parker Memorial CME Course in Developmental Behavioral Pediatrics. "Smartphone: Friend or Foe?" (Boston, MA)
03/2015-03/2015	Steven J. Parker Memorial CME Course in Developmental Behavioral Pediatrics. "Colic, Tantrums, and Sleep: Self-regulation Problems in Early Childhood" (Boston, MA)
05/2015-05/2015	New England School Nurse Association Annual Continuing Education Conference. "Digital Technology Use and Child Development." (Portsmouth, NH)
04/2016-04/2016	Michigan Head Start Medical Advisory Committee. "Mobile Media Use and Child Social-Emotional Development." (Lansing, MI)
09/2016-09/2016	Michigan Chapter, American Academy of Pediatrics 2016 Annual Conference. "The ABCs of IEPs." (Boyne, MI)
11/2016-11/2016	Saint Joseph's Hospital Pediatric Grand Rounds. "Digital Technology and the Word Gap: Barrier or Opportunity?" (Ypsilanti, MI)
04/2017-04/2017	HighScope International Conference. "Family Technology Use: How to Implement Evidence-based Family-Centered Practices" (Detroit, MI)
06/2017-06/2017	Saint Joseph's Hospital Pediatric Grand Rounds. "The ABCs of IEPs." (Ypsilanti, MI)

08/2017-08/2017	Washtenaw Intermediate School District Early Childhood Conference. "Digital Media and Early Childhood: The New AAP Guidelines and Early Childhood Education." (Ann Arbor, MI)
03/2018-03/2018	Michigan Head Start Association annual meeting. "Preschoolers and Touchscreens." (Ann Arbor, MI)
10/2018-10/2018	Michigan Department of Health and Human Services Autism Training Program: "The ASD Team: Perspective from a Developmental Behavioral Pediatrician" (Michigan statewide webinar)
03/2019-03/2019	Michigan Head Start Association Annual Conference. "Apps and Young Brains." (Ann Arbor, MI)
08/2019-08/2019	Hurley Children's Hospital Grand Rounds "Digital Media and Early Childhood: The Good, The Bad, and the Unknown." (Flint, MI)
01/2020-01/2020	Osher Lifelong Learning Institute. "Digital Media and Parent-Child Interaction." (Ann Arbor, MI)
07/2020-07/2020	Ascension Hospital Pediatrics Grand Rounds: "Beyond Screen Time: The Importance of Relationships, Design, and Disparities." (Detroit, MI - presented virtually)
10/2020-10/2020	Ann Arbor Public Schools, Lawton Elementary School Parent-Teacher Organization. "Surviving Remote Learning" (Ann Arbor, MI - presented virtually)
10/2022-10/2022	Media and Child Wellbeing: Thinking Beyond Screen Time, Ann Arbor Public Schools PTO, Guest Lecturer
11/2022-11/2022	Screen Media and Child Wellbeing, Michigan Medicine Project Healthy Schools, Guest Lecturer
01/2023-01/2023	Pediatric Early Autism Recognition System, UM Collaborative Office Rounds, Guest Lecturer
05/2023-05/2023	Parent workshop about media and child development, Unified Child and Family Head Start
08/2023-08/2023	Professional Training on Children and Media - Early Childhood and Elementary Teachers, Oakland Intermediate School District
10/2023-10/2023	Workshop for parents about healthy media use, Saline Public Schools, Workshop Leader
02/2024-02/2024	Workshop for parents about healthy digital relationships with media, Emerson School
02/2024-02/2024	Webinar on Digital Media and Child Mental Health, MC3
03/2024-Present	Webinar for early child care providers about media use, Child Care Network of Southeast Michigan, Guest lecturer
04/2024-Present	Webinar for parents about healthy screen use, Monroe Intermediate School District, Guest lecturer
05/2024-Present	Webinar on social media and youth mental health, Coalition for a Drug-Free Baltimore, Guest lecturer

Institutional

04/2012-04/2012	Pediatric Grand Rounds, Boston Medical Center: "Unsoothable infant crying and risk of maternal depression."
11/2012-11/2012	Pediatric Case of the Week, Boston Medical Center: "We don't want meds: Nonpharmacologic approaches to ADHD management."
04/2013-04/2013	Pediatric Grand Rounds, Boston Medical Center: "Behavioral antecedents of early media exposure."
01/2014-01/2015	Fellow Support Rounds (monthly), Boston Medical Center Division of Developmental Behavioral Pediatrics

01/2014-01/2015	Media and Early Childhood Development lecture, pediatric interns
04/2014-04/2014	Pediatric Grand Rounds, Boston Medical Center. "Patterns of Mobile Device Use by Caregivers of Young Children During Fast Food Meals"/"Are Children with Self-Regulation Problems Differentially Susceptible to Early Parenting?"
07/2015-07/2015	Pediatric Grand Rounds, University of Michigan. "Mobile Media Use, Parent-Child Interaction, and Child Social-emotional Development."
09/2015-09/2015	Pediatric Grand Rounds, Boston University School of Medicine. "Mobile Media Use, Parent-Child Interaction, and Child Social-emotional Development."
12/2015-12/2015	Harvard Combined Neonatology Fellowship Research Lecture Series. "Mobile Media Use, Parent-Child Interaction, and Child Development."
12/2016-12/2016	University of Michigan Interactive and Social Computing Consortium. "Early Childhood Media Use."
03/2017-03/2017	University of Michigan Autism Spectrum Disorder CME. "After ASD Diagnosis: IEPs, Non-ABA Treatment Options, and Parent Support"
07/2017-07/2017	University of Michigan Department of Pediatrics Grand Rounds. "Digital Media and Early Childhood: Update on the New AAP Guidelines."
09/2017-09/2017	University of Michigan CHEAR (Child Health Evaluation and Research) Unit conference. "Using apps to measure parent and child mobile device use: Opportunities and Limitations."
10/2017-10/2017	University of Michigan Child Psychology Trainee Lunch Series. "Digital Media and Early Childhood."
12/2018-12/2018	University of Michigan T32 Training Program in Developmental Science: "Digital Media and Early Childhood: Clinical Cases and Evidence Base"
03/2019-03/2019	University Center for Child and Family, Ann Arbor, MI – Trainee case conference: "Media and Mental Health."
01/2020-01/2020	University of Michigan School of Communication and Media invited lecture. "Naturalistic Methods for Studying Child and Parent Media Use."
01/2020-01/2020	Michigan Privacy Symposium, University of Michigan School of Information. "Children and Technology."
01/2020-01/2020	Center for Human Growth and Development T32 seminar, "Working with the Media"
05/2020-05/2020	Michigan Medicine Department of Pediatrics Grand Rounds: "Beyond Screen Time: The Importance of Relationships, Design, and Disparities."
09/2020-09/2020	Michigan Medicine Pediatrics Residency, "Attachment and Parenting in Early Childhood"
04/2021-04/2021	Child Psychology Practicum Lecture, Department of Psychiatry, Michigan Medicine
08/2023-08/2023	Autism Bootcamp, Developmental Behavioral Pediatrics Fellowship
12/2023-12/2023	Noon conference: Strategic Science to Inform Child Policy, University of Michigan Medical School, Pediatrics, Division of Child Neurology

Dissertation Committees

01/2021-Present	Kaiwen Sun, Interactive Media and Child Development, University of Michigan, School of Information, Committee Member
10/2021-Present	Olivia Richards, University of Michigan, School of Information, Committee Member

Preliminary Committee

06/2024-Present Cami Goray, Public perceptions of digital privacy and age assurance, University of Michigan, School of Information, Committee Member

Memberships in Professional Societies

2002 - 2020 Member, Massachusetts Medical Society
 2007 - Present Fellow, American Academy of Pediatrics
 2012 - Present Member, Academic Pediatric Association
 2012 - Present Member, Society for Developmental Behavioral Pediatrics
 2014 - 2016 Member, Contextual Influences Working Group, Bridging the Word Gap National Research Network
 2018 - Present Member, Society for Pediatric Research

Committee/Service**International**

2019 - 2023 Board of Directors, Melissa and Doug, LLC, Board of Directors

National

2015 - Present Council on Communications and Media, American Academy of Pediatrics, Member
 2016 National Conference and Exhibition Peds21 Planning Committee, American Academy of Pediatrics, Other, Abstract Chairperson
 2017 Council on Communications and Media, Media Visiting Professor Selection Committee, American Academy of Pediatrics, Member
 2018 NICHD Strategic Planning Committee, National Institutes of Child Health and Development, Member
 2021 - 2023 Council on Communications and Media, American Academy of Pediatrics, Vice Chair
 2023 - Present Council on Communications and Media, American Academy of Pediatrics, Chair
 2023 Interagency Task Force on Social Media and Youth Mental Health, United States Government, Other, Scientific subject matter expert

Regional

2016 - Present Medical Advisory Board, Autism Alliance of Michigan, Member
 2017 - 2023 Board of Directors, Child Care Network of Southeast Michigan, Secretary
 2019 Flint Water Crisis Community Advisory Board, University of Michigan, Member
 2019 - 2020 Autism Evaluation and Treatment Working Group, Michigan Department of Health and Human Services, Member

Institutional

2007 - 2010 Residency curriculum planning committee, University of Washington/Seattle Children's Hospital, Member
 2008 - 2009 Intern selection committee, University of Washington/Seattle Children's Hospital, Member
 2015 Department of Pediatrics, Chair's Strategic Planning Committee, Boston University School of Medicine, Member
 2018 Zero to Thrive Faculty Selection Committee, University of Michigan Medical School, Member

2020 - 2022 Admissions Interviewer, University of Michigan Medical School, Member

2020 - 2023 Department of Pediatrics Research Symposium Planning Committee, University of Michigan Medical School, Officer

2023 Health Equity Steering Committee, University of Michigan, Member

Departmental

2022 - Present Tenure Track Promotions Committee, University of Michigan Medical School
Department of Pediatrics, Member

Scholarly Activities

Presentations

Visiting Professorship

Keynote

1. Digital Media and Parent-Child Relationships, University of Lille, 11/2019, Lille, France

Extramural Invited Presentation

Keynote

1. AAP Council on Communications and Media Visiting Professorship, University of Illinois, Chicago, 05/2016, Chicago
2. Digital Media and Literacy/Social-Emotional Development., Akron Children's Hospital, 05/2017, Akron, OH
3. Commercialism is the Missing Link, Children's Screen Time Action Network, 04/2018, Boston, MA
4. Empowering Parents in the Digital Age: Supporting Parent-Child Interactions, Denver Health (Early Childhood Lectureship), 04/2018, Denver, CO
5. Digital Media and the Dyad, World Association of Infant Mental Health, 05/2018, Rome, Italy
6. Digital Media and Parent-Child Interaction, Hospital for Sick Kids Infant Mental Health Program, 02/2019, Toronto, Canada
7. (Keynote Presentations) "Practical Strategies for Addressing Digital Media in Primary Care" and "Digital Media and Early Childhood Outcomes.", University of Wisconsin - Madison, 09/2019, Madison, WI
8. The Digital Playground, MIPJunior, 10/2020, Cannes, France (Presented virtually)
9. Keynote Lecture: Moving Beyond "Screen Time:" Advocating for a Child-Centered Digital Environment, ACM Interaction Design and Children, 06/2021, Athens, Greece (virtual)
10. Digital Media and Child Development: Beyond Screen Time, **Radesky J**, Slovenian Pediatric Society, 09/2022, Bled, Slovenia
11. Stretching Beyond Your Comfort Zone: How Different Lenses and Methods Can Improve Child Health Research, **Radesky J**, Georgetown University Medical Center - Collaborative for Research and Education to Advance Children's Health, 12/2022, Washington, DC (virtual)
12. Social Media and Adolescent Mental Health, **Radesky J**, Hassenfeld Child Health Innovation Institute, 05/2023, Providence, RI
13. Assessing and Managing the Effects of Social Media on Children, **Radesky J**, Lecture for pediatricians on social media and child mental health, Inaugural Rucola Lecture in Pediatrics, 11/2023, Chicago, IL (virtual)
14. Digital Media and Early Childhood, **Radesky J**, Presentation to early childhood practitioners in Denmark, Danish Early Childhood Annual Conference (Smabornekonferencen), 01/2024, Nyborg, Denmark
15. Digital Wellbeing in Early Childhood: Research Updates, **Radesky J**, Digital wellbeing advisory board keynote, Sesame Workshop, 02/2024, New York, NY

16. Screens and Young Children: Strengths-based approaches to support early mental and relational health, **Radesky J**, New York State Early Childhood Technical Assistance Center, 05/2024, New York, NY (virtual)
17. The 5 Cs of Media Use: Early Childhood, **Radesky J**, American Academy of Pediatrics, 05/2024, Washington, DC
18. What Ever Happened to Children's Television?, Radesky J, International Conference on Infant Studies, 07/2024, Glasgow, Scotland
19. Social Media and Student Mental Health, **Radesky J**, Mental Health America – New York State. 2024 Summer Academy for Mental Health, 08/2024, New York, NY (virtual)
20. New approaches to address social media and youth mental health, **Radesky J**, American Academy of Pediatrics National Conference and Exhibition, 09/2024, Orlando, FL
21. Healthy relationships with social media, from birth to adolescence, Radesky J, Montana Chapter AAP, 10/2024, Helena, MT
22. Social Media and Adolescent Mental Health, **Radesky J**, Vermont Child Health Improvement Program, 10/2024, Burlington, VT

Speaker

1. Digital Media and Parent-Child Interaction., Reach Out and Read, 05/2017, Denver, CO
2. A Pediatric Perspective on the Impact of Early Media Exposure, National Institute of Child Health and Development, 01/2018, Bethesda, MD
3. Differences in parent-toddler interactions when reading electronic versus print books, Reach Out and Read National Leadership Conference, 05/2018, Cincinnati, OH
4. Digital Media and Parent-Child Interaction, University of California - San Francisco Department of Pediatrics Grand Rounds, 06/2018, San Francisco, CA
5. Parent Technology Use and Parent-Child Interaction, Digitaler Alltag mit Kindern (Digital Everyday Life with Children) conference, Universitäts-Kinderspital, 08/2018, Zurich, Switzerland
6. Parent Technology Use and Parent-Child Interaction, Public Health Ontario - Infant Mental Health, 10/2018, Ontario, Canada
7. How Early Childhood Programs Can Support Media Literacy Education, National Leadership Forum, Alliance for Media Literacy in Early Childhood. Erikson Institute, 01/2019, Chicago, IL
8. Screen Media Best Practices: Integrating Media Guidance into Parent-Child Work, ZERO TO THREE, 10/2019, Fort Lauderdale, FL
9. The Digital Playground: App Design, Data Collection, and Policy Implications, U.S. Federal Trade Commission COPPA Workshop, 10/2019, Washington, DC
10. Early use of old (and new) Media and Children's Cognitive Development., University of California - San Diego Department of Pediatrics (Welsh Lectureship), 01/2020, San Diego, CA
11. Digital Media and Parent-Child Interaction, Connecticut Children's Hospital Grant Rounds, 04/2020, Hartford, CT
12. How Digital Media are Shaping Children's Relationships with Parents and the World, ZERO TO THREE Board of Directors Annual Meeting, 05/2020, Washington, DC
13. Advocating for Children's Digital Environments, Reach Out and Read, 06/2020, Webinar
14. Digital Media, Parent-Child Interaction, and Social-emotional Development, Mind HK (Hong Kong Mental Health Conference), 11/2020, Hong Kong (virtual)
15. Advertising and Children, Institute for Digital Media and Child Development, 11/2020, New York, NY (virtual)
16. Demystifying Digital Design and its Impact on Parent-Child Interaction, ZERO TO THREE New York, 01/2021, New York, NY (virtual)
17. Families and Digital Media Use During COVID-19, Connecticut Children's Hospital, 03/2021, Hartford, CT

18. "Optimal Defaults" in Children's Digital Spaces: Relevance for Policy, Research, and Clinical Guidance, Children's Hospital of Philadelphia Grand Rounds, 04/2021, Philadelphia, PA
19. The Science Behind Why Pediatricians Prescribe Play, US Play Coalition National Conference, 04/2021, Virtual
20. The Digital Environment and Child Development: Sorting Facts from Fears, Pediatric Academic Societies, 05/2021, Virtual
21. The role of design and monetization in media's effect on child wellbeing, **Radesky J**, National Academy of Science, 02/2023, Washington, DC (virtual)
22. Strategic Science for Child Technology Policy, **Radesky J**, Designed with Kids in Mind Advocacy Coalition, 02/2023, Washington, DC
23. Spokesperson Training: Social Media and Mental Health, **Radesky J**, Training for AAP spokespeople, American Academy of Pediatrics, 08/2023, Washington, DC (virtual)
24. Social Media and Mental Health in Children and Adolescents, **Radesky J**, Training for pediatricians and mental health professionals, North Dakota Child Psychiatry Access Program, 09/2023, North Dakota, US (virtual)
25. Important Concepts in Social Media and Youth Mental Health, **Radesky J**, AAP COCM H-session, American Academy of Pediatrics, 10/2023, Washington, DC
26. Digital Media, Causality, and Mental Health, **Radesky J**, Invited workshop on social media, child wellbeing, and the law, Columbia Knight First Amendment Institute, 01/2024, New York, NY
27. The Evidence Base for Child Technology Regulation, **Radesky J**, Training for AAP leaders, American Academy of Pediatrics, 03/2024, Washington, DC (virtual)
28. Beyond Screen Time: Researching Child media Use Through Relational and Design Lenses, **Radesky J**, New York University, 05/2024, New York, NY (virtual)
29. Social Media and Youth Mental Health, **Radesky J**, Ascension Hospital Pediatric Grand Rounds, 06/2024, New Jersey (virtual)
30. Child Development in a Virtual World, **Radesky J**, National Academies of Science Engineering and Medicine, 09/2024, Washington, DC (virtual)
31. Social Media and Youth Mental Health, **Radesky J**, Tecnologico de Monterrey Medical School, 11/2024, Monterrey, Mexico (virtual)

Panel

1. Children and Technology, Common Sense Media, 02/2018, Washington, DC
2. What do children understand about IoT, and how are they vulnerable?, IoT of Toys Conference - Developing a US-EU Public Interest Strategy, 02/2018, Washington, DC
3. Hooked on Tech?, Family Online Safety Institute, 11/2018, Washington, DC
4. Senate Roundtable: Children and Media Research Advancement Act, United States Senate, 02/2019, Washington, DC
5. NSFK: Getting to Quality Content, Common Sense Media, 05/2019, Mountain View, CA
6. Mobile and Interactive Media Use by Children: Design and Policy Implications, Seton Hall Law School Privacy Conference, 11/2019, Newark, NJ
7. House of Representatives Round Table regarding the Children and Media Research Advancement Act, United States House of Representatives, 05/2020, Washington, DC
8. Thinking Beyond Screen Time: Developmental Processes and Design, New York Academy of Sciences, 07/2020, New York, NY (webinar)
9. How Do Dark Patterns Target Kids and Teens?, Federal Trade Commission Workshop on Dark Patterns in Technology Design, 04/2021, Washington, DC
10. Children with Special Needs During COVID-19, New York University, 05/2021, Virtual
11. Stealth Advertising and Children: Developmental Considerations, **Radesky J**, U.S. Federal Trade Commission, 10/2022, Washington, DC (virtual)

12. Roundtable with Surgeon General Vivek Murthy regarding Social Media and Youth Mental Health, **Radesky J**, U.S. Surgeon General's Office, 03/2023, Washington, DC (virtual)
13. New York Child Mental Health Summit: Keynote Panel on Youth and Social Media, **Radesky J**, New York State Governor's Office, 06/2023, New York, NY
14. Children and Social Media, **Radesky J**, Children's Health Fund, 07/2023, New York, NY (virtual)
15. Parenting and Media, **Radesky J**, Research presentation on parent-child relationships and media, Children and Screens: Institute for Digital Media and Child Development, 09/2023, Washington, DC
16. Commercialism and Childhood, **Radesky J**, Presentation on commercial influences in media, Children and Screens: Institute for Digital Media and Child Development, 09/2023, Washington, DC
17. Commercial Determinants of Child Health, **Radesky J**, Annual PRISM Social Media Research Conference, PRISM Institute, University of California San Francisco, 12/2023, San Francisco, CA
18. SAMHSA Mental Health Conference: School mental health panel, **Radesky J**, Substance Use and Mental Health Services Administration, 05/2024, Washington, DC

Seminar

1. Digital Media and Parent-Child Interaction, Georgetown University Developmental Science Colloquia, 04/2018, Washington, DC
2. Youth-centered approaches to researching media and child wellbeing, **Radesky J**, National Institutes of Mental Health Director's Innovation Speaker Series, 11/2024, Bethesda, MD

Intramural Invited Presentation

Keynote

1. Promoting Mental Wellbeing and Healthy Relationships with Social Media, **Radesky J**, University of Michigan Fundamentals of Nursing Conference, 05/2024, Ann Arbor, MI

Panel

1. Enhancing Your National Reputation, Michigan Medicine, Faculty Development, 09/2023, Ann Arbor, Michigan

Publications/Scholarship

(Co-First Author *; Corresponding author **; Co-Last author ***)

Peer-Reviewed

Journal Article

1. Danet M, Miller A, Weeks H, Kaciroti NA, **Radesky J**: Children aged 3-4 years were more likely to be given mobile devices for calming purposes if they had weaker overall executive functioning. *Acta Paediatrica*.111(7): 1383-1389, PM35238076
2. Suh B, Kirkorian H, Kucher S, Barr R, Torres C, **Radesky J**: Measuring Parents' Regulatory Media Use for Themselves and Their Children. *Frontiers in Developmental Psychology*. ,(In Press)
3. Sun K, Gelman S, **Radesky J**, Yip J, Schaub F: "Why is Everything in the Cloud?":Co-Designing Visual Cues Representing Data Processes with Children. *Interaction Design for Children*. ,(In Press)
4. Baughan A, Alsabeh D, **Radesky J**, Rich M, Hiniker A: Investigating Attention and Normative Dissociation in Children's Online Social Games. *Interaction Design for Children*. ,(In Press)
5. Oken E, Ning Y, Rifas-Shiman SL, **Radesky JS**, Rich-Edwards JW, Gillman MW: Associations of physical activity and inactivity before and during pregnancy with glucose tolerance. *Obstet Gynecol*.108(5): 1200-1207, 11/2006. PM17077243
6. **Radesky JS**, Oken E, Rifas-Shiman SL, Kleinman KP, Rich-Edwards JW, Gillman MW: Diet during early pregnancy and development of gestational diabetes. *Paediatr Perinat Epidemiol*.22(1): 47-59, 01/2008. PM18173784

7. Oken E, **Radesky JS**, Wright RO, Bellinger DC, Amarasiriwardena CJ, Kleinman KP, Hu H, Gillman MW: Maternal fish intake during pregnancy, blood mercury levels, and child cognition at age 3 years in a US cohort. *Am J Epidemiol*.167(10): 1171-1181, 05/2008. PM18353804
8. Johnson L, **Radesky J**, Zuckerman B: Cross-cultural parenting: reflections on autonomy and interdependence. *Pediatrics*.131(4): 631-633, 04/2013. PM23509169
9. **Radesky JS**, Zuckerman B, Silverstein M, Rivara FP, Barr M, Taylor JA, Lengua LJ, Barr RG: Inconsolable infant crying and maternal postpartum depressive symptoms. *Pediatrics*.131(6): e1857-e1864, 06/2013. PM23650295
10. Kistin CJ, **Radesky J**, Diaz-Linhart Y, Tompson MC, O'Connor E, Silverstein M: A qualitative study of parenting stress, coping, and discipline approaches among low-income traumatized mothers. *J Dev Behav Pediatr*.35(3): 189-196, 04/2014. PM24633062
11. **Radesky JS**, Kistin CJ, Zuckerman B, Nitzberg K, Gross J, Kaplan-Sanoff M, Augustyn M, Silverstein M: Patterns of mobile device use by caregivers and children during meals in fast food restaurants. *Pediatrics*.133(4): e843-e849, 04/2014. PM24616357
12. **Radesky JS**, Silverstein M, Zuckerman B, Christakis DA: Infant self-regulation and early childhood media exposure. *Pediatrics*.133(5): e1172-e1178, 05/2014. PM24733868
13. **Radesky JS**: The social-ecological context of media use and school success. *J Pediatr (Rio J)*.91(4): 318-319, 01/2015. PM25976266
14. **Radesky JS**, Schumacher J, Zuckerman B: Mobile and interactive media use by young children: the good, the bad, and the unknown. *Pediatrics*.135(1): 1-3, 01/2015. PM25548323
15. **Radesky JS**, Kistin C, Eisenberg S, Gross J, Block G, Zuckerman B, Silverstein M: Parent Perspectives on Their Mobile Technology Use: The Excitement and Exhaustion of Parenting While Connected. *J Dev Behav Pediatr*.37(9): 694-701, 01/2016. PM27802256
16. **Radesky JS**, Peacock-Chambers E, Zuckerman B, Silverstein M: Use of Mobile Technology to Calm Upset Children: Associations With Social-Emotional Development. *JAMA Pediatr*.170(4): 397-399, 04/2016. PM26928293
17. **Radesky JS**, Carta J, Bair-Merritt M: The 30 Million-Word Gap: Relevance for Pediatrics. *JAMA Pediatr*.170(9): 825-826, 09/2016. PM27379489
18. **Radesky JS**, Christakis DA: Increased Screen Time: Implications for Early Childhood Development and Behavior. *Pediatr Clin North Am*.63(5): 827-839, 10/2016. PM27565361
19. Reid Chassiakos YL, **Radesky J**, Christakis D, Moreno MA, Cross C, COUNCIL ON COMMUNICATIONS AND MEDIA: Children and Adolescents and Digital Media. *Pediatrics*.138(5)11/2016. PM27940795
20. COUNCIL ON COMMUNICATIONS AND MEDIA: Media Use in School-Aged Children and Adolescents. *Pediatrics*.138(5)11/2016. PM27940794
21. COUNCIL ON COMMUNICATIONS AND MEDIA: Media and Young Minds. *Pediatrics*.138(5)11/2016. PM27940793
22. **Radesky JS**, Eisenberg S, Kistin CJ, Gross J, Block G, Zuckerman B, Silverstein M: Overstimulated Consumers or Next-Generation Learners? Parent Tensions About Child Mobile Technology Use. *Ann Fam Med*.14(6): 503-508, 11/2016. PM28376436
23. Peacock-Chambers E, **Radesky JS**, Parker SE, Zuckerman B, Lumeng JC, Silverstein M: Infant Regulatory Problems and Obesity in Early Childhood. *Acad Pediatr*.17(5): 523-528, 07/2017. PM28669453
24. Coyne SM, **Radesky J**, Collier KM, Gentile DA, Linder JR, Nathanson AI, Rasmussen EE, Reich SM, Rogers J: Parenting and Digital Media. *Pediatrics*.140(Suppl 2): S112-S116, 11/2017. PM29093044
25. **Radesky JS**, Leung C, Appugliese D, Miller AL, Lumeng JC, Rosenblum KL: Maternal mental representations of the child and mobile phone use during parent-child mealtimes. *Journal of Developmental Behavioral Pediatrics*.39(4)01/2018
26. McDaniel BT, **Radesky JS**: Technoference: Parent Distraction With Technology and Associations With Child Behavior Problems. *Child Dev*.89(1): 100-109, 01/2018. PM28493400

27. Cliff DP, Howard SJ, **Radesky JS**, McNeill J, Vella SA: Early Childhood Media Exposure and Self-Regulation: Bidirectional Longitudinal Associations. *Acad Pediatr*.18(7): 813-819, 01/2018. PM29704999
28. **Radesky J**, Leung C, Appugliese D, Miller AL, Lumeng JC, Rosenblum KL: Maternal Mental Representations of the Child and Mobile Phone Use During Parent-Child Mealtimes. *J Dev Behav Pediatr*.39(4): 310-317, 05/2018. PM29485515
29. Munzer TG, Miller AL, Peterson KE, Brophy-Herb HE, Horodyski MA, Contreras D, Sturza J, Lumeng JC, **Radesky J**: Media Exposure in Low-Income Preschool-Aged Children Is Associated with Multiple Measures of Self-Regulatory Behavior. *J Dev Behav Pediatr*.39(4): 303-309, 05/2018. PM29538186
30. McDaniel BT, **Radesky JS**: Technoference: longitudinal associations between parent technology use, parenting stress, and child behavior problems. *Pediatr Res*.84(2): 210-218, 08/2018. PM29895837
31. Yogman M, Garner A, Hutchinson J, Hirsh-Pasek K, Golinkoff RM, COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAM, COUNCIL ON COMMUNICATIONS AND MEDIA: The Power of Play: A Pediatric Role in Enhancing Development in Young Children. *Pediatrics*.142(3)09/2018. PM30126932
32. **Radesky J**, Moreno MA: How to Consider Screen Time Limits...for Parents. *JAMA Pediatr*.172(10): 996, 10/2018. PM30177990
33. Domoff SE, **Radesky JS**, Harrison K, Riley H, Lumeng JC, Miller AL: A Naturalistic Study of Child and Family Screen Media and Mobile Device Use. *J Child Fam Stud*.28(2): 401-410, 02/2019. PM31105418
34. Hiniker A, **Radesky JS**, Livingstone S, Blum-Ross A: Moving Beyond" The Great Screen Time Debate" in the Design of Technology for Children. *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*.n/a: 1-6, 05/2019
35. Lane R, **Radesky J**: Digital Media and Autism Spectrum Disorders: Review of Evidence, Theoretical Concerns, and Opportunities for Intervention. *J Dev Behav Pediatr*.40(5): 364-368, 06/2019. PM30973425
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